CHEMTECH

DATA PACKAGE

VOLATILE ORGANICS
GENERAL CHEMISTRY
METALS
GC SEMI-VOLATILES
SEMI-VOLATILE ORGANICS

PROJECT NAME : NYCSCA - PROPOSED PS19X ADDITION

AKRF ENGINEERING, P.C.

34 South Broadway, Suite 401

White Plains, NY - 10601

Phone No: 9149497336

ORDER ID : H1788

ATTENTION : Rebecca Kinal, PE

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

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Cover Page

Order ID : H1788

Project ID : NYCSCA - Proposed PS19X Addition

Client : AKRF Engineering, P.C.

Lab Sample Number	Client Sample Number
H1788-01	SB-1(8-9)
H1788-02	SB-2(8-9)
H1788-03	SB-3(7-8)
H1788-04	SB-4(7-8)
H1788-05	SB-5(9-10)
H1788-06	TW-1
H1788-07	TW-2
H1788-08	TW-4
H1788-09	TW-5

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. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : Mildred V Reyes

APPROVED

Date: 3/26/2016

By Mildred V Reyes, QAQC Supervisor at 10:14 am, Mar 28, 2016

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: VOCMS Group1

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_D were done using GC column RTX-VMS which is 20 meters, 0.18 mm id, 1.0 um df, Restek Cat. #49914. The Trap was supplied by SUPELCO, K (VOACARB 3000) , TEKMAR LSC-2000 Concentrator.The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.The analysis of VOCMS Group1 was based on method 8260C.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for SB-5(9-10) [1,2-Dichloroethane-d4 - 50%, Dibromofluoromethane - 56%, Toluene-d8 - 52%], SB-5(9-10)RE [1,2-Dichloroethane-d4 - 135%].
The Internal Standards Areas met the acceptable requirements except for SB-5(9-10)RE.
The Retention Times were acceptable for all samples.
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The %RSD is greater than 20% in the Initial Calibration (Method 82D031716S.M) for 1,4-Dioxane, this compound is passing on linear Regression. The %RSD is greater than 15% in the Initial Calibration (Method 82N031516W.M) for Chloromethane,Cyclohexane, 1,2,4-Trichlorobenzene, Naphthalene, 1,2,3-Trichlorobenzene, these compounds are passing on Linear Regression.
The Continuous Calibration met the requirements.
The Tuning criteria met requirements.

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E. Additional Comments:

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

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Signature____ Mildred V Reyes __

APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:14 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: SVOCMS Group1

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOCMS Group1 was based on method 8270D and extraction was done based on method 3510.

D. QA/ QC Samples:
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 MS {H1790-05MS} with File ID: BF085597.D recoveries met the requirements for all compounds except for 1,2,4,5-Tetrachlorobenzene[84%] .
The MSD {H1790-05MSD} with File ID: BF085598.D recoveries met the acceptable requirements except for 1,2,4,5-Tetrachlorobenzene[78%] .
The RPD for {H1790-05MSD} with File ID: BF085598.D recoveries met criteria except for 2,4-Dinitrophenol[22%], 3,3-Dichlorobenzidine[31%], 3-Nitroaniline[23%], 4-Chloroaniline[30%] and Naphthalene[24%] .
The Blank Spike for {PB88925BS} with File ID: BF085504.D met requirements for all samples except for Di-n-octyl phthalate[124%] .

The Blank analysis did not indicate the presence of lab contamination.
The %RSD is greater than 20% in the Initial Calibration (Method 8270-BF031516.M) for 2,4-Dinitrophenol this compound is passing on Linear regression .

The %RSD is greater than 20% in the Initial Calibration (Method 8270-BF031816.M) for Benzaldehyde and 2-Fluorobiphenyl these compounds are passing on Quadratic regression.

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The Continuous Calibration File ID BF085498.D met the requirements except for Di-n-octyl phthalate .

The Continuous Calibration File ID BF085595.D met the requirements except for Hexachlorocyclopentadiene,2,4-Dinitrophenol,4,6-Dinitro-2-methylphenol and 4-Bromophenyl-phenylether.

The Tuning criteria met requirements.

E. Additional Comments:

F. Manual Integration Comments:

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APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:14 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: PCB

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for PCB.

C. Analytical Techniques:
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.The analyses were performed on instrument GCECD_R. 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.The analysis of PCBs was based on method 8082A and extraction was done based on method 3510.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration with File ID PQ007024.D met the requirements except for Aroclor1016 {Peak-1, column(2)}.The Continuous Calibration with File ID PR006723.D met the requirements except for Aroclor1016 {Peak-1, column(1)}.

E. Additional Comments:

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: Diesel Range Organics

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for Diesel Range Organics.

C. Analytical Techniques:
The analyses were performed on instrument FID_E. The column is RXI-1MS which is 20 meters, 0.18mm ID, 0.18 um df, catalog 10224.The analysis of Diesel Range Organics was based on method 8015B and extraction was done based on method 3510.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: Gasoline Range Organics

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for Gasoline Range Organics.

C. Analytical Techniques:
The analysis performed on instrument FID_B were done using GC column RTX-502.2 which is 60 meters, 0.53mm ID, 3.0 um df, cat#10909. The analysis of Gasoline Range Organics was based on method 8015B.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds .
The MSD recoveries met the acceptable requirements .
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:

F. Manual Integration Comments:

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: Metals ICP-TAL,Mercury

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for Metals ICP-TAL,Mercury.

C. Analytical Techniques:
The analysis of Metals ICP-TAL was based on method 6010B, digestion based on method 3050 (soils).The analysis of Metals ICP-TAL was based on method 6010C, digestion based on method 3010 (waters).The analysis and digestion of Mercury was based on method 7470A. The analysis of Mercury was based on method 7471A and digestion was based on method 7471B (soils).

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (GRID-8A-(0-10)MS) analysis met criteria for all samples except for Antimony. The Matrix Spike (TW-2MS) analysis met criteria for all samples except for Aluminum.
The Matrix Spike Duplicate (GRID-8A-(0-10)MSD) analysis met criteria for all samples except for Antimony. The Matrix Spike Duplicate (TW-2MSD) analysis met criteria for all samples except for Aluminum.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution (GRID-8A-(0-10)L) met criteria for all samples except for Calcium,Chromium, Chromium, Copper, Magnesium,Manganese. The Serial Dilution (TW-2L) met criteria.

E. Additional Comments:
LLCCV & LLICV is not required for 6010 analytical method.

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Signature___ Mildred V Reyes ___

APPROVED

By Mildred V Reyes, QAQC Supervisor at 10:13 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1788
Test Name: Hexavalent Chromium,Cyanide

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 03/14/2016.
4 Water samples were received on 03/14/2016.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Cyanide, Diesel Range Organics, Gasoline Range Organics, Hexavalent Chromium, Mercury, Metals ICP-TAL, METALS-TAL, PCB, SVOCMS Group1 and VOCMS Group1. This data package contains results for Hexavalent Chromium,Cyanide.

C. Analytical Techniques:
The analysis of Hexavalent Chromium was based on method 7196A and The analysis of Cyanide was based on method 9012B.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

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APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:13 am, Mar 28, 2016

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DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

U Indicates the analyte was analyzed for, but not detected.

ND Indicates the analyte was analyzed for, but not detected

E Indicates the reported value is estimated because of the presence of interference

M Indicates Duplicate injection precision not met.

N Indicates the spiked sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

***** Indicates that the duplicate analysis is not within control limits.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

D Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

M Method qualifiers
"P" for ICP instrument
"PM" for ICP when Microwave Digestion is used
"CV" for Manual Cold Vapor AA
"AV" for automated Cold Vapor AA
"CA" for MIDI-Distillation Spectrophotometric
"AS" for Semi –Automated Spectrophotometric
"C" for Manual Spectrophotometric
"T" for Titrimetric
"NR" for analyte not required to be analyzed

OR Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.

Q Indicates the LCS did not meet the control limits requirements

H Sample Analysis Out Of Hold Time

QA Control # A3040961

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DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

QA Control # A3040960

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: H1788

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: ASHA PATEL Date: 03/26/2016

2nd Level QA Review Signature: Mildred V Reyes Date:

APPROVED
By Mildred V Reyes, QAQC Supervisor at 10:13 am, Mar 28, 2016

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/18/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/18/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/18/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/18/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/17/16	
H1788-05RE	**SB-5(9-10)RE**	**SOIL**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/18/16	
H1788-06	**TW-1**	**Water**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/15/16	
H1788-07	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/15/16	
H1788-08	**TW-4**	**Water**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/15/16	
H1788-09	**TW-5**	**Water**			**03/12/16**			**03/14/16**
			VOCMS Group1	8260C			03/15/16	

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Hit Summary Sheet
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
Client ID:	**SB-5(9-10)**									
H1788-05	SB-5(9-10)	SOIL	Methylene Chloride		2.90	J	0.5	0.5	5	ug/Kg
			Total Voc :		2.9					
			Total Concentration:		2.9					
Client ID:	**TW-1**									
H1788-06	TW-1	Water	1,2,4-Trichlorobenzene		4.90	J	0.2	0.5	5	ug/L
H1788-06	TW-1	Water	Naphthalene		6.90		0.2	0.5	5	ug/L
			Total Voc :		11.8					
H1788-06	TW-1	Water	Hexachlorobutadiene	*	0.76	J	0.2		5	ug/L
			Total Tics :		0.76					
			Total Concentration:		12.56					

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	13.5
Sample Wt/Vol:	4.59 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048980.D	1		03/18/16 20:15	VD031816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	0.63	U	0.63	0.63	6.3	ug/Kg
74-87-3	Chloromethane	0.63	U	0.63	0.63	6.3	ug/Kg
75-01-4	Vinyl Chloride	0.63	U	0.63	0.63	6.3	ug/Kg
74-83-9	Bromomethane	1.3	U	1.3	1.3	6.3	ug/Kg
75-00-3	Chloroethane	0.63	U	0.63	0.63	6.3	ug/Kg
75-69-4	Trichlorofluoromethane	0.63	U	0.63	0.63	6.3	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.63	U	0.63	0.63	6.3	ug/Kg
75-35-4	1,1-Dichloroethene	0.63	U	0.63	0.63	6.3	ug/Kg
67-64-1	Acetone	3.1	U	3.1	3.1	31.5	ug/Kg
75-15-0	Carbon Disulfide	0.63	U	0.63	0.63	6.3	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.63	U	0.63	0.63	6.3	ug/Kg
79-20-9	Methyl Acetate	1.3	U	1.3	1.3	6.3	ug/Kg
75-09-2	Methylene Chloride	0.63	U	0.63	0.63	6.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.63	U	0.63	0.63	6.3	ug/Kg
75-34-3	1,1-Dichloroethane	0.63	U	0.63	0.63	6.3	ug/Kg
110-82-7	Cyclohexane	0.63	U	0.63	0.63	6.3	ug/Kg
78-93-3	2-Butanone	9.4	U	3.9	9.4	31.5	ug/Kg
56-23-5	Carbon Tetrachloride	0.63	U	0.63	0.63	6.3	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.63	U	0.63	0.63	6.3	ug/Kg
74-97-5	Bromochloromethane	0.63	U	0.63	0.63	6.3	ug/Kg
67-66-3	Chloroform	0.63	U	0.63	0.63	6.3	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.63	U	0.63	0.63	6.3	ug/Kg
108-87-2	Methylcyclohexane	0.63	U	0.63	0.63	6.3	ug/Kg
71-43-2	Benzene	0.63	U	0.48	0.63	6.3	ug/Kg
107-06-2	1,2-Dichloroethane	0.63	U	0.63	0.63	6.3	ug/Kg
79-01-6	Trichloroethene	0.63	U	0.63	0.63	6.3	ug/Kg
78-87-5	1,2-Dichloropropane	0.63	U	0.33	0.63	6.3	ug/Kg
75-27-4	Bromodichloromethane	0.63	U	0.63	0.63	6.3	ug/Kg
108-10-1	4-Methyl-2-Pentanone	3.1	U	3.1	3.1	31.5	ug/Kg
108-88-3	Toluene	0.63	U	0.63	0.63	6.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.63	U	0.63	0.63	6.3	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.63	U	0.63	0.63	6.3	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	13.5
Sample Wt/Vol:	4.59 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048980.D	1		03/18/16 20:15	VD031816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1.3	U	1.1	1.3	6.3	ug/Kg
591-78-6	2-Hexanone	3.1	U	3.1	3.1	31.5	ug/Kg
124-48-1	Dibromochloromethane	0.63	U	0.63	0.63	6.3	ug/Kg
106-93-4	1,2-Dibromoethane	0.63	U	0.63	0.63	6.3	ug/Kg
127-18-4	Tetrachloroethene	0.63	U	0.63	0.63	6.3	ug/Kg
108-90-7	Chlorobenzene	0.63	U	0.63	0.63	6.3	ug/Kg
100-41-4	Ethyl Benzene	0.63	U	0.63	0.63	6.3	ug/Kg
179601-23-1	m/p-Xylenes	1.3	U	0.91	1.3	12.6	ug/Kg
95-47-6	o-Xylene	0.63	U	0.63	0.63	6.3	ug/Kg
100-42-5	Styrene	0.63	U	0.57	0.63	6.3	ug/Kg
75-25-2	Bromoform	1.9	U	0.93	1.9	6.3	ug/Kg
98-82-8	Isopropylbenzene	0.63	U	0.6	0.63	6.3	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	0.63	U	0.58	0.63	6.3	ug/Kg
103-65-1	n-propylbenzene	0.63	U	0.45	0.63	6.3	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	0.63	U	0.57	0.63	6.3	ug/Kg
98-06-6	tert-Butylbenzene	0.63	U	0.63	0.63	6.3	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	0.63	U	0.63	0.63	6.3	ug/Kg
135-98-8	sec-Butylbenzene	0.63	U	0.63	0.63	6.3	ug/Kg
99-87-6	p-Isopropyltoluene	0.63	U	0.37	0.63	6.3	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.63	U	0.47	0.63	6.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.63	U	0.52	0.63	6.3	ug/Kg
104-51-8	n-Butylbenzene	0.63	U	0.58	0.63	6.3	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.63	U	0.63	0.63	6.3	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	6.3	U	1.1	6.3	6.3	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.63	U	0.63	0.63	6.3	ug/Kg
91-20-3	Naphthalene	0.63	U	0.57	0.63	6.3	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1.3	U	0.63	1.3	6.3	ug/Kg
123-91-1	1,4-Dioxane	130	U	130	130	130	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.8		56 - 120		92%	SPK: 50
1868-53-7	Dibromofluoromethane	40.8		57 - 135		82%	SPK: 50
2037-26-5	Toluene-d8	36.7		67 - 123		73%	SPK: 50
460-00-4	4-Bromofluorobenzene	38.6		33 - 141		77%	SPK: 50

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	13.5
Sample Wt/Vol:	4.59 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048980.D	1		03/18/16 20:15	VD031816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	137300	6.32				
540-36-3	1,4-Difluorobenzene	211112	7.45				
3114-55-4	Chlorobenzene-d5	269520	11.59				
3855-82-1	1,4-Dichlorobenzene-d4	155559	13.93				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (62	% Moisture:	16.0
Sample Wt/Vol:	z.(4 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1)	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
VD24) 909.D	1		23/1) /16 19:4)	VD231) 16

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
0z-01-)	Dichlorodifluoromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
04-) 0-3	Chloromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0z-21-4	Vinyl Chloride	2.z0	U	2.z0	2.z0	z.0	ug/Kg
04-) 3-9	Bromomethane	1.1	U	1.1	1.1	z.0	ug/Kg
0z-22-3	Chloroethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0z-69-4	Trichlorofluoromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
06-13-1	1,1,(-Trichlorotrifluoroethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0z-3z-4	1,1-Dichloroethene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
60-64-1	Acetone	(.9	U	(.9	(.9	( ) .6	ug/Kg
0z-1z-2	Carbon Disulfide	2.z0	U	2.z0	2.z0	z.0	ug/Kg
1634-24-4	Methyl tert-butyl Ether	2.z0	U	2.z0	2.z0	z.0	ug/Kg
09-(2-9	Methyl Acetate	1.1	U	1.1	1.1	z.0	ug/Kg
0z-29-(	Methylene Chloride	2.z0	U	2.z0	2.z0	z.0	ug/Kg
1z6-62-z	trans-1,(-Dichloroethene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0z-34-3	1,1-Dichloroethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
112-) (-0	Cyclohexane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0) -93-3	(-Butanone	) .6	U	3.6	) .6	( ) .6	ug/Kg
z6-(3-z	Carbon Tetrachloride	2.z0	U	2.z0	2.z0	z.0	ug/Kg
1z6-z9-(	cis-1,(-Dichloroethene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
04-90-z	Bromochloromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
60-66-3	Chloroform	2.z0	U	2.z0	2.z0	z.0	ug/Kg
01-zz-6	1,1,1-Trichloroethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
12) -) 0-(	Methylcyclohexane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
01-43-(	BenQene	2.z0	U	2.44	2.z0	z.0	ug/Kg
120-26-(	1,(-Dichloroethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
09-21-6	Trichloroethene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
0) -) 0-z	1,(-Dichloropropane	2.z0	U	2.3	2.z0	z.0	ug/Kg
0z-(0-4	Bromodichloromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
12) -12-1	4-Methyl-(-Pentanone	(.9	U	(.9	(.9	( ) .6	ug/Kg
12) -)) -3	Toluene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
12261-2(-6	t-1,3-Dichloropropene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
12261-21-z	cis-1,3-Dichloropropene	2.z0	U	2.z0	2.z0	z.0	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (62	% Moisture:	16.0
Sample Wt/Vol:	z.(4 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1)	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD24) 909.D	1		23/1) /16 19:4)	VD231) 16

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
09-22-z	1,1,(-Trichloroethane	1.1	U	1	1.1	z.0	ug/Kg
z91-0) -6	(-7 exanone	(.9	U	(.9	(.9	( ) .6	ug/Kg
1(4-4) -1	Dibromochloromethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
126-93-4	1,(-Dibromoethane	2.z0	U	2.z0	2.z0	z.0	ug/Kg
1(0-1) -4	Tetrachloroethene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
12) -92-0	ChlorobenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
122-41-4	Ethyl BenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
109621-(3-1	m/p-Xylenes	1.1	U	2.) (	1.1	11.z	ug/Kg
9z-40-6	o-Xylene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
122-4(-z	Styrene	2.z0	U	2.z(	2.z0	z.0	ug/Kg
0z-(z-(	Bromoform	1.0	U	2.) z	1.0	z.0	ug/Kg
9) -) (-)	IsopropylbenZene	2.z0	U	2.zz	2.z0	z.0	ug/Kg
09-34-z	1,1,(,(-Tetrachloroethane	2.z0	U	2.z3	2.z0	z.0	ug/Kg
123-6z-1	n-propylbenZene	2.z0	U	2.41	2.z0	z.0	ug/Kg
12) -60-)	1,3,z-TrimethylbenZene	2.z0	U	2.z(	2.z0	z.0	ug/Kg
9) -26-6	tert-ButylbenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
9z-63-6	1,(,4-TrimethylbenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
13z-9) -)	sec-ButylbenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
99-) 0-6	p-Isopropyltoluene	2.z0	U	2.33	2.z0	z.0	ug/Kg
z41-03-1	1,3-DichlorobenZene	2.z0	U	2.4(	2.z0	z.0	ug/Kg
126-46-0	1,4-DichlorobenZene	2.z0	U	2.40	2.z0	z.0	ug/Kg
124-z1-)	n-ButylbenZene	2.z0	U	2.z3	2.z0	z.0	ug/Kg
9z-z2-1	1,(-DichlorobenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
96-1(-)	1,(-Dibromo-3-Chloropropane	z.0	U	1	z.0	z.0	ug/Kg
1(2-) (-1	1,(,4-TrichlorobenZene	2.z0	U	2.z0	2.z0	z.0	ug/Kg
91-(2-3	Naphthalene	2.z0	U	2.z(	2.z0	z.0	ug/Kg
) 0-61-6	1,(,3-TrichlorobenZene	1.1	U	2.z0	1.1	z.0	ug/Kg
1(3-91-1	1,4-Dioxane	112	U	112	112	112	ug/Kg
SURROGATES							
10262-20-2	1,(-Dichloroethane-d4	44.6		z6 - 1(2		) 9%	SPK: z2
1) 6) -z3-0	Dibromofluoromethane	36.9		z0 - 13z		04%	SPK: z2
(230-(6-z	Toluene-d)	3z		60 - 1(3		02%	SPK: z2
462-22-4	4-BromofluorobenZene	3z.9		33 - 141		0(%	SPK: z2

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (62	% Moisture:	16.0
Sample Wt/Vol:	z.(4 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1)	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD24) 909.D	1		23/1) /16 19:4)	VD231) 16

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
363-0(-4	PentafluorobenZene	14393(	6.3(				
z42-36-3	1,4-DifluorobenZene	((6z01	0.4z				
3114-zz-4	ChlorobenZene-dz	( ) z20z	11.z9				
3) zz-) (-1	1,4-DichlorobenZene-d4	16(306	13.9(				

U = Not Detected
LO5 = Limit of 5 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
5 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of 5 C limits
D = Dilution
8H= Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	9.6
Sample Wt/Vol:	4.) 1 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
VD24H9) HD	1		2(/1H/13 19:61	VD2(1H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
) z-) 1-H	Dichlorodifluoromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 4-H) -(	Chloromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) z-21-4	Vinyl Chloride	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 4-H(-9	Bromomethane	1.6	U	1.6	1.6	z.H	ug/Kg
) z-22-(	Chloroethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) z-39-4	Trichlorofluoromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 3-1(-1	1,1,6-Trichlorotrifluoroethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) z-(z-4	1,1-Dichloroethene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
3) -34-1	Acetone	6.9	U	6.9	6.9	69.6	ug/Kg
) z-1z-2	Carbon Disulfide	2.zH	U	2.zH	2.zH	z.H	ug/Kg
13(4-24-4	Methyl tert-butyl Ether	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 9-62-9	Methyl Acetate	1.6	U	1.6	1.6	z.H	ug/Kg
) z-29-6	Methylene Chloride	2.zH	U	2.zH	2.zH	z.H	ug/Kg
1z3-32-z	trans-1,6-Dichloroethene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) z-(4-(	1,1-Dichloroethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
112-H6-)	Cyclohexane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) H-9(-(	6-Butanone	HH	U	(.3	HH	69.6	ug/Kg
z3-6(-z	Carbon Tetrachloride	2.zH	U	2.zH	2.zH	z.H	ug/Kg
1z3-z9-6	cis-1,6-Dichloroethene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 4-9) -z	Bromochloromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
3) -33-(	Chloroform	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 1-zz-3	1,1,1-Trichloroethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
12H-H) -6	Methylcyclohexane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 1-4(-6	BenQene	2.zH	U	2.44	2.zH	z.H	ug/Kg
12) -23-6	1,6-Dichloroethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) 9-21-3	Trichloroethene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
) H-H) -z	1,6-Dichloropropane	2.zH	U	2.(	2.zH	z.H	ug/Kg
) z-6) -4	Bromodichloromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
12H-12-1	4-Methyl-6-Pentanone	6.9	U	6.9	6.9	69.6	ug/Kg
12H-HH-(	Toluene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
12231-26-3	t-1,(-Dichloropropene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
12231-21-z	cis-1,(-Dichloropropene	2.zH	U	2.zH	2.zH	z.H	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	9.6
Sample Wt/Vol:	4.) 1 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
VD24H9) HD	1		2(/1H/13 19:61	VD2(1H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
) 9-22-z	1,1,6-Trichloroethane	1.6	U	1.1	1.6	z.H	ug/Kg
z91-) H-3	6-0 exanone	6.9	U	6.9	6.9	69.6	ug/Kg
164-4H-1	Dibromochloromethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
123-9(-4	1,6-Dibromoethane	2.zH	U	2.zH	2.zH	z.H	ug/Kg
16) -1H-4	Tetrachloroethene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
12H-92-)	ChlorobenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
122-41-4	Ethyl BenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
1) 9321-6(-1	m/p-Xylenes	1.6	U	2.H4	1.6	11.)	ug/Kg
9z-4) -3	o-Xylene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
122-46-z	Styrene	2.zH	U	2.z(	2.zH	z.H	ug/Kg
) z-6z-6	Bromoform	1.H	U	2.H)	1.H	z.H	ug/Kg
9H-H6-H	IsopropylbenQene	2.zH	U	2.z3	2.zH	z.H	ug/Kg
) 9-(4-z	1,1,6,6-Tetrachloroethane	2.zH	U	2.z4	2.zH	z.H	ug/Kg
12(-3z-1	n-propylbenQene	2.zH	U	2.46	2.zH	z.H	ug/Kg
12H-3) -H	1,(,z-TrimethylbenQene	2.zH	U	2.z(	2.zH	z.H	ug/Kg
9H-23-3	tert-ButylbenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
9z-3(-3	1,6,4-TrimethylbenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
1(z-9H-H	sec-ButylbenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
99-H) -3	p-Isopropyltoluene	2.zH	U	2.(4	2.zH	z.H	ug/Kg
z41-) (-1	1,(-DichlorobenQene	2.zH	U	2.4(	2.zH	z.H	ug/Kg
123-43-)	1,4-DichlorobenQene	2.zH	U	2.4H	2.zH	z.H	ug/Kg
124-z1-H	n-ButylbenQene	2.zH	U	2.z4	2.zH	z.H	ug/Kg
9z-z2-1	1,6-DichlorobenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
93-16-H	1,6-Dibromo-(-Chloropropane	z.H	U	1	z.H	z.H	ug/Kg
162-H6-1	1,6,4-TrichlorobenQene	2.zH	U	2.zH	2.zH	z.H	ug/Kg
91-62-(	Naphthalene	2.zH	U	2.z(	2.zH	z.H	ug/Kg
H) -31-3	1,6,(-TrichlorobenQene	1.6	U	2.zH	1.6	z.H	ug/Kg
16(-91-1	1,4-Dioxane	162	U	162	162	162	ug/Kg
SURROGATES							
1) 232-2) -2	1,6-Dichloroethane-d4	42.(		z3 - 162		H1%	SPK: z2
1H-BH-z(-)	Dibromofluoromethane	( ) .(		z) - 1(z		) z%	SPK: z2
62( ) -63-z	Toluene-dH	(3		3) - 16(		) 6%	SPK: z2
432-22-4	4-BromofluorobenQene	(3.z		((- 141		) (%	SPK: z2

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	9.6
Sample Wt/Vol:	4.) 1 Units: g	Final Vol:	z222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/5 c Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD24H9) HD	1		2(/1H/13 19:61	VD2(1H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
(3(-) 6-4	PentafluorobenZene	14(44(	3.(6				
z42-(3-(	1,4-DifluorobenZene	619943	) .4z				
(114-zz-4	ChlorobenZene-dz	6) 692z	11.z9				
(Hzz-H6-1	1,4-DichlorobenZene-d4	131z9H	1(.9(				

U = Not Detected
LO5 = Limit of 5 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
5 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of 5 C limits
D = Dilution
87= Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	24/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	24/1(/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	11.5
Sample Wt/Vol:	5.(6 Units: g	Final Vol:	5222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD2(H9)) .D	1		24/1H/13 1H5(	VD241H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
) 5-) 1-H	Dichlorodifluoromethane	2.56	U	2.56	2.56	5.6	ug/Kg
) (-H) -4	Chloromethane	2.56	U	2.56	2.56	5.6	ug/Kg
) 5-21-(	Vinyl Chloride	2.56	U	2.56	2.56	5.6	ug/Kg
) (-H4-9	Bromomethane	1	U	1	1	5.6	ug/Kg
) 5-22-4	Chloroethane	2.56	U	2.56	2.56	5.6	ug/Kg
) 5-39-(	Trichlorofluoromethane	2.56	U	2.56	2.56	5.6	ug/Kg
) 3-14-1	1,1,6-Trichlorotrifluoroethane	2.56	U	2.56	2.56	5.6	ug/Kg
) 5-45-(	1,1-Dichloroethene	2.56	U	2.56	2.56	5.6	ug/Kg
3) -3(-1	Acetone	6.3	U	6.3	6.3	63.1	ug/Kg
) 5-15-2	Carbon Disulfide	2.56	U	2.56	2.56	5.6	ug/Kg
134(-2(-(	Methyl tert-butyl Ether	2.56	U	2.56	2.56	5.6	ug/Kg
) 9-62-9	Methyl Acetate	1	U	1	1	5.6	ug/Kg
) 5-29-6	Methylene Chloride	2.56	U	2.56	2.56	5.6	ug/Kg
153-32-5	trans-1,6-Dichloroethene	2.56	U	2.56	2.56	5.6	ug/Kg
) 5-4(-4	1,1-Dichloroethane	2.56	U	2.56	2.56	5.6	ug/Kg
112-H6-)	Cyclohexane	2.56	U	2.56	2.56	5.6	ug/Kg
) H-94-4	6-Butanone	) .H	U	4.6	) .H	63.1	ug/Kg
53-64-5	Carbon Tetrachloride	2.56	U	2.56	2.56	5.6	ug/Kg
153-59-6	cis-1,6-Dichloroethene	2.56	U	2.56	2.56	5.6	ug/Kg
) (-9) -5	Bromochloromethane	2.56	U	2.56	2.56	5.6	ug/Kg
3) -33-4	Chloroform	2.56	U	2.56	2.56	5.6	ug/Kg
) 1-55-3	1,1,1-Trichloroethane	2.56	U	2.56	2.56	5.6	ug/Kg
12H-H) -6	Methylcyclohexane	2.56	U	2.56	2.56	5.6	ug/Kg
) 1-(4-6	Benzene	2.56	U	2.(	2.56	5.6	ug/Kg
12) -23-6	1,6-Dichloroethane	2.56	U	2.56	2.56	5.6	ug/Kg
) 9-21-3	Trichloroethene	2.56	U	2.56	2.56	5.6	ug/Kg
) H-H) -5	1,6-Dichloropropane	2.56	U	2.6)	2.56	5.6	ug/Kg
) 5-6) -(	Bromodichloromethane	2.56	U	2.56	2.56	5.6	ug/Kg
12H-12-1	(-Methyl-6-Pentanone	6.3	U	6.3	6.3	63.1	ug/Kg
12H-HH-4	Toluene	2.56	U	2.56	2.56	5.6	ug/Kg
12231-26-3	t-1,4-Dichloropropene	2.56	U	2.56	2.56	5.6	ug/Kg
12231-21-5	cis-1,4-Dichloropropene	2.56	U	2.56	2.56	5.6	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	24/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	24/1(/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	11.5
Sample Wt/Vol:	5.(6 Units: g	Final Vol:	5222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD2(H9)) .D	1		24/1H/13 1H:5(	VD241H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
) 9-22-5	1,1,6-Trichloroethane	1	U	2.9(	1	5.6	ug/Kg
591-) H-3	6-0 exanone	6.3	U	6.3	6.3	63.1	ug/Kg
16(-(H-1	Dibromochloromethane	2.56	U	2.56	2.56	5.6	ug/Kg
123-94-(	1,6-Dibromoethane	2.56	U	2.56	2.56	5.6	ug/Kg
16) -1H-(	Tetrachloroethene	2.56	U	2.56	2.56	5.6	ug/Kg
12H-92-)	Chlorobenzene	2.56	U	2.56	2.56	5.6	ug/Kg
122-(1-(	Ethyl Benzene	2.56	U	2.56	2.56	5.6	ug/Kg
1) 9321-64-1	m/p-Xylenes	1	U	2.) 5	1	12.(	ug/Kg
95-( ) -3	o-Xylene	2.56	U	2.56	2.56	5.6	ug/Kg
122-(6-5	Styrene	2.56	U	2.( )	2.56	5.6	ug/Kg
) 5-65-6	Bromoform	1.3	U	2.))	1.3	5.6	ug/Kg
9H-H6-H	Isopropylbenzene	2.56	U	2.5	2.56	5.6	ug/Kg
) 9-4(-5	1,1,6,6-Tetrachloroethane	2.56	U	2.(H	2.56	5.6	ug/Kg
124-35-1	n-propylbenzene	2.56	U	2.4H	2.56	5.6	ug/Kg
12H-3) -H	1,4,5-Trimethylbenzene	2.56	U	2.( )	2.56	5.6	ug/Kg
9H-23-3	tert-Butylbenzene	2.56	U	2.56	2.56	5.6	ug/Kg
95-34-3	1,6,(-Trimethylbenzene	2.56	U	2.56	2.56	5.6	ug/Kg
145-9H-H	sec-Butylbenzene	2.56	U	2.56	2.56	5.6	ug/Kg
99-H) -3	p-Isopropyltoluene	2.56	U	2.4	2.56	5.6	ug/Kg
5(1-) 4-1	1,4-Dichlorobenzene	2.56	U	2.49	2.56	5.6	ug/Kg
123-(3-)	1,(-Dichlorobenzene	2.56	U	2.(4	2.56	5.6	ug/Kg
12(-51-H	n-Butylbenzene	2.56	U	2.(H	2.56	5.6	ug/Kg
95-52-1	1,6-Dichlorobenzene	2.56	U	2.56	2.56	5.6	ug/Kg
93-16-H	1,6-Dibromo-4-Chloropropane	5.6	U	2.91	5.6	5.6	ug/Kg
162-H6-1	1,6,(-Trichlorobenzene	2.56	U	2.56	2.56	5.6	ug/Kg
91-62-4	Naphthalene	2.56	U	2.( )	2.56	5.6	ug/Kg
H) -31-3	1,6,4-Trichlorobenzene	1	U	2.56	1	5.6	ug/Kg
164-91-1	1,(-Dioxane	122	U	122	122	122	ug/Kg
SURROGATES							
1) 232-2) -2	1,6-Dichloroethane-d(	54.)		53 - 162		12) %	SPK: 52
1H-BH-54-)	Dibromofluoromethane	(5.6		5) - 145		92%	SPK: 52
624) -63-5	Toluene-dH	(6.5		3) - 164		H5%	SPK: 52
(32-22-(	(-Bromofluorobenzene	(6.(		44 - 1(1		H5%	SPK: 52

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	24/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	24/1(/13
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH632	% Moisture:	11.5
Sample Wt/Vol:	5.(6 Units: g	Final Vol:	5222 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 2.1H	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD2(H9)) .D	1		24/1H/13 1H5(	VD241H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
434-) 6-(	Pentafluorobenzene	144((5	3.44				
5(2-43-4	1,(-Difluorobenzene	629564	) .(5				
411(-55-(	Chlorobenzene-d5	65H(HB	11.59				
4H55-H6-1	1,(-Dichlorobenzene-d(	1(2943	14.94				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
87= Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) H	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	3.) 6 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O29(1.D	1		) 4/10/13 19:( )	VD) 41013

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
0(-01-2	Dichlorodifluoromethane	) .(	U	) .(	) .(	(	ug/Kg
0O-20-4	Chloromethane	) .(	U	) .(	) .(	(	ug/Kg
0(-) 1-O	Vinyl Chloride	) .(	U	) .(	) .(	(	ug/Kg
0O-24-9	Bromomethane	1	U	1	1	(	ug/Kg
0(-)) -4	Chloroethane	) .(	U	) .(	) .(	(	ug/Kg
0(-39-O	Trichlorofluoromethane	) .(	U	) .(	) .(	(	ug/Kg
03-14-1	1,1,6-Trichlorotrifluoroethane	) .(	U	) .(	) .(	(	ug/Kg
0(-4(-O	1,1-Dichloroethene	) .(	U	) .(	) .(	(	ug/Kg
30-3O-1	Acetone	6.(	U	6.(	6.(	6(.1	ug/Kg
0(-1(-)	Carbon Disulfide	) .(	U	) .(	) .(	(	ug/Kg
134O-) O-O	Methyl tert-butyl Ether	) .(	U	) .(	) .(	(	ug/Kg
09-6) -9	Methyl Acetate	1	U	1	1	(	ug/Kg
0(-) 9-6	Methylene Chloride	6.9	=	) .(	) .(	(	ug/Kg
1(3-3) -(	trans-1,6-Dichloroethene	) .(	U	) .(	) .(	(	ug/Kg
0(-4O-4	1,1-Dichloroethane	) .(	U	) .(	) .(	(	ug/Kg
11) -26-0	Cyclohexane	) .(	U	) .(	) .(	(	ug/Kg
02-94-4	6-Butanone	0.(	U	4.1	0.(	6(.1	ug/Kg
(3-64-(	Carbon Tetrachloride	) .(	U	) .(	) .(	(	ug/Kg
1(3-(9-6	cis-1,6-Dichloroethene	) .(	U	) .(	) .(	(	ug/Kg
0O-90-(	Bromochloromethane	) .(	U	) .(	) .(	(	ug/Kg
30-33-4	Chloroform	) .(	U	) .(	) .(	(	ug/Kg
01-((-3	1,1,1-Trichloroethane	) .(	U	) .(	) .(	(	ug/Kg
1) 2-20-6	Methylcyclohexane	) .(	U	) .(	) .(	(	ug/Kg
01-O4-6	Benzene	) .(	U	) .42	) .(	(	ug/Kg
1) 0-) 3-6	1,6-Dichloroethane	) .(	U	) .(	) .(	(	ug/Kg
09-) 1-3	Trichloroethene	) .(	U	) .(	) .(	(	ug/Kg
02-20-(	1,6-Dichloropropane	) .(	U	) .63	) .(	(	ug/Kg
0(-60-O	Bromodichloromethane	) .(	U	) .(	) .(	(	ug/Kg
1) 2-1) -1	O-Methyl-6-Pentanone	6.(	U	6.(	6.(	6(.1	ug/Kg
1) 2-22-4	Toluene	) .(	U	) .(	) .(	(	ug/Kg
1)) 31-) 6-3	t-1,4-Dichloropropene	) .(	U	) .(	) .(	(	ug/Kg
1)) 31-) 1-(	cis-1,4-Dichloropropene	) .(	U	) .(	) .(	(	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) H	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	3.) 6 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O29(1.D	1		) 4/10/13 19:( )	VD) 41013

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
09-)) -(	1,1,6-Trichloroethane	1	U	) .9	1	(	ug/Kg
(91-02-3	6-7 exanone	6.(	U	6.(	6.(	6(.1	ug/Kg
16O-O2-1	Dibromochloromethane	) .(	U	) .(	) .(	(	ug/Kg
1) 3-94-O	1,6-Dibromoethane	) .(	U	) .(	) .(	(	ug/Kg
160-12-O	Tetrachloroethene	) .(	U	) .(	) .(	(	ug/Kg
1) 2-9) -0	Chlorobenzene	) .(	U	) .(	) .(	(	ug/Kg
1)) -O1-O	Ethyl Benzene	) .(	U	) .(	) .(	(	ug/Kg
1093) 1-64-1	m/p-Xylenes	1	U	) .06	1	1)	ug/Kg
9(-O0-3	o-Xylene	) .(	U	) .(	) .(	(	ug/Kg
1)) -O6-(	Styrene	) .(	U	) .O(	) .(	(	ug/Kg
0(-6(-6	Bromoform	1.(	U	) .0O	1.(	(	ug/Kg
92-26-2	Isopropylbenzene	) .(	U	) .O2	) .(	(	ug/Kg
09-4O-(	1,1,6,6-Tetrachloroethane	) .(	U	) .O3	) .(	(	ug/Kg
1) 4-3(-1	n-propylbenzene	) .(	U	) .43	) .(	(	ug/Kg
1) 2-30-2	1,4,(-Trimethylbenzene	) .(	U	) .O(	) .(	(	ug/Kg
92-) 3-3	tert-Butylbenzene	) .(	U	) .(	) .(	(	ug/Kg
9(-34-3	1,6,O-Trimethylbenzene	) .(	U	) .(	) .(	(	ug/Kg
14(-92-2	sec-Butylbenzene	) .(	U	) .(	) .(	(	ug/Kg
99-20-3	p-Isopropyltoluene	) .(	U	) .69	) .(	(	ug/Kg
(O1-04-1	1,4-Dichlorobenzene	) .(	U	) .40	) .(	(	ug/Kg
1) 3-O3-0	1,O-Dichlorobenzene	) .(	U	) .O1	) .(	(	ug/Kg
1) O-(1-2	n-Butylbenzene	) .(	U	) .O3	) .(	(	ug/Kg
9(-( ) -1	1,6-Dichlorobenzene	) .(	U	) .(	) .(	(	ug/Kg
93-16-2	1,6-Dibromo-4-Chloropropane	(	U	) .20	(	(	ug/Kg
16) -26-1	1,6,O-Trichlorobenzene	) .(	U	) .(	) .(	(	ug/Kg
91-6) -4	Naphthalene	) .(	U	) .O(	) .(	(	ug/Kg
20-31-3	1,6,4-Trichlorobenzene	1	U	) .(	1	(	ug/Kg
164-91-1	1,O-Dioxane	1))	U	1))	1))	1))	ug/Kg
SURROGATES							
10) 3) -) 0-)	1,6-Dichloroethane-dO	6(	*	(3 - 16)		( ) %	SPK: ( )
1232-(4-0	Dibromofluoromethane	60.2	*	(0 - 14(		(3%	SPK: ( )
6) 40-63-(	Toluene-d2	63.6	*	30 - 164		(6%	SPK: ( )
O3) -)) -O	O-Bromofluorobenzene	63.4		44 - 1O1		(4%	SPK: ( )

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) H	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	3.) 6 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O29(1.D	1		) 4/10/13 19:( )	VD) 41013

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
434-06-O	Pentafluorobenzene	414691	3.44				
(O) -43-4	1,O-Difluorobenzene	O24O(6	0.O3				
411O-((-O	Chlorobenzene-d(	(64) (4	11.3				
42((-26-1	1,O-Dichlorobenzene-dO	629OI9	14.94				

U k Not Detected
L5 Q k Limit of Quantitation
MDL k Method Detection Limit
L5 D k Limit of Detection
E k Value Exceeds Calibration Range
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

=k Estimated Value
B k Analyte Found in Associated Method BlanJ
N k Presumptive Evidence of a Compound
* k Values outside of QC limits
D k Dilution
8H k Laboratory In7 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) IRE	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (RE	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	(.90 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O2903.D	1		) 4/12/13 12:62	VD) 41213

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
0(-01-2	Dichlorodifluoromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0O-20-4	Chloromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0(-) 1-O	Vinyl Chloride	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0O-24-9	Bromomethane	1	U	1	1	(.1	ug/Kg
0(-)) -4	Chloroethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0(-39-O	Trichlorofluoromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
03-14-1	1,1,6-Trichlorotrifluoroethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0(-4(-O	1,1-Dichloroethene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
30-3O-1	Acetone	6.(	U	6.(	6.(	6(.4	ug/Kg
0(-1(-)	Carbon Disulfide	) .(1	U	) .(1	) .(1	(.1	ug/Kg
134O-) O-O	Methyl tert-butyl Ether	) .(1	U	) .(1	) .(1	(.1	ug/Kg
09-6) -9	Methyl Acetate	1	U	1	1	(.1	ug/Kg
0(-) 9-6	Methylene Chloride	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1(3-3) -(	trans-1,6-Dichloroethene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0(-4O-4	1,1-Dichloroethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
11) -26-0	Cyclohexane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
02-94-4	6-Butanone	0.3	U	4.1	0.3	6(.4	ug/Kg
(3-64-(	Carbon Tetrachloride	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1(3-(9-6	cis-1,6-Dichloroethene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
0O-90-(	Bromochloromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
30-33-4	Chloroform	) .(1	U	) .(1	) .(1	(.1	ug/Kg
01-((-3	1,1,1-Trichloroethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1) 2-20-6	Methylcyclohexane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
01-O4-6	Benzene	) .(1	U	) .42	) .(1	(.1	ug/Kg
1) 0-) 3-6	1,6-Dichloroethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
09-) 1-3	Trichloroethene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
02-20-(	1,6-Dichloropropane	) .(1	U	) .63	) .(1	(.1	ug/Kg
0(-60-O	Bromodichloromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1) 2-1) -1	O-Methyl-6-Pentanone	6.(	U	6.(	6.(	6(.4	ug/Kg
1) 2-22-4	Toluene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1)) 31-) 6-3	t-1,4-Dichloropropene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1)) 31-) 1-(	cis-1,4-Dichloropropene	) .(1	U	) .(1	) .(1	(.1	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) IRE	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (RE	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	(.90 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O2903.D	1		) 4/12/13 12:62	VD) 41213

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
09-)) -(	1,1,6-Trichloroethane	1	U	) .91	1	(.1	ug/Kg
(91-02-3	6-7 exanone	6.(	U	6.(	6.(	6(.4	ug/Kg
16O-O2-1	Dibromochloromethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1) 3-94-O	1,6-Dibromoethane	) .(1	U	) .(1	) .(1	(.1	ug/Kg
160-12-O	Tetrachloroethene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1) 2-9) -0	Chlorobenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1)) -O1-O	Ethyl Benzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1093) 1-64-1	m/p-Xylenes	1	U	) .04	1	1) .1	ug/Kg
9(-O0-3	o-Xylene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
1)) -O6-(	Styrene	) .(1	U	) .O3	) .(1	(.1	ug/Kg
0(-6(-6	Bromoform	1.(	U	) .0(	1.(	(.1	ug/Kg
92-26-2	Isopropylbenzene	) .(1	U	) .O9	) .(1	(.1	ug/Kg
09-4O-(	1,1,6,6-Tetrachloroethane	) .(1	U	) .O0	) .(1	(.1	ug/Kg
1) 4-3(-1	n-propylbenzene	) .(1	U	) .43	) .(1	(.1	ug/Kg
1) 2-30-2	1,4,(-Trimethylbenzene	) .(1	U	) .O3	) .(1	(.1	ug/Kg
92-) 3-3	tert-Butylbenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
9(-34-3	1,6,O-Trimethylbenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
14(-92-2	sec-Butylbenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
99-20-3	p-Isopropyltoluene	) .(1	U	) .69	) .(1	(.1	ug/Kg
(O1-04-1	1,4-Dichlorobenzene	) .(1	U	) .40	) .(1	(.1	ug/Kg
1) 3-O3-0	1,O-Dichlorobenzene	) .(1	U	) .O6	) .(1	(.1	ug/Kg
1) O-(1-2	n-Butylbenzene	) .(1	U	) .O0	) .(1	(.1	ug/Kg
9(-( ) -1	1,6-Dichlorobenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
93-16-2	1,6-Dibromo-4-Chloropropane	(.1	U	) .22	(.1	(.1	ug/Kg
16) -26-1	1,6,O-Trichlorobenzene	) .(1	U	) .(1	) .(1	(.1	ug/Kg
91-6) -4	Naphthalene	) .(1	U	) .O3	) .(1	(.1	ug/Kg
20-31-3	1,6,4-Trichlorobenzene	1	U	) .(1	1	(.1	ug/Kg
164-91-1	1,O-Dioxane	1))	U	1))	1))	1))	ug/Kg
SURROGATES							
10) 3) -) 0-)	1,6-Dichloroethane-dO	30.3	=	(3 - 16)		14(%	SPK: ( )
1232-(4-0	Dibromofluoromethane	O6.6		(0 - 14(		2O%	SPK: ( )
6) 40-63-(	Toluene-d2	4(.3		30 - 164		01%	SPK: ( )
O3) -)) -O	O-Bromofluorobenzene	42.O		44 - 1O1		00%	SPK: ( )

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 4/16/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 4/1O/13
Client Sample ID:	SB-(89-1) IRE	SDG No.:	7 1022
Lab Sample ID:	7 1022-) (RE	Matrix:	S5 IL
Analytical Method:	SW263)	% Moisture:	10.4
Sample Wt/Vol:	(.90 Units: g	Final Vol:	( ))) uL
Soil Aliquot Vol:	uL	Test:	V5 CMS Group1
GC Column:	RTX-VMS ID :) .12	Level :	L5 W

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD) O2903.D	1		) 4/12/13 12:62	VD) 41213

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
434-06-O	Pentafluorobenzene	6(2) 6	3.44				
(O) -43-4	1,O-Difluorobenzene	O4031	0.O3				
411O-((-O	Chlorobenzene-d(	36460	11.(9				
42((-26-1	1,O-Dichlorobenzene-dO	4(2((	14.94				

U * Not Detected
L5 Q * Limit of Quantitation
MDL * Method Detection Limit
L5 D * Limit of Detection
E * Value Exceeds Calibration Range
Q * indicates LCS control criteria did not meet requirements
M * MS/MSD acceptance criteria did not meet requirements

J * Estimated Value
B * Analyte Found in Associated Method Blank
N * Presumptive Evidence of a Compound
= * Values outside of QC limits
D * Dilution
8H* Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	TW-1	SDG No.:	H1788
Lab Sample ID:	H1788-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN031280.D	1		03/15/16 16:45	VN031516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	0.5	U	0.2	0.5	5	ug/L
74-87-3	Chloromethane	0.5	U	0.2	0.5	5	ug/L
75-01-4	Vinyl Chloride	0.5	U	0.34	0.5	5	ug/L
74-83-9	Bromomethane	0.5	U	0.2	0.5	5	ug/L
75-00-3	Chloroethane	0.5	U	0.2	0.5	5	ug/L
75-69-4	Trichlorofluoromethane	0.5	U	0.35	0.5	5	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	0.45	0.5	5	ug/L
75-35-4	1,1-Dichloroethene	0.5	U	0.47	0.5	5	ug/L
67-64-1	Acetone	2.5	U	0.5	2.5	25	ug/L
75-15-0	Carbon Disulfide	0.5	U	0.2	0.5	5	ug/L
1634-04-4	Methyl tert-butyl Ether	0.5	U	0.35	0.5	5	ug/L
79-20-9	Methyl Acetate	2	U	0.2	2	5	ug/L
75-09-2	Methylene Chloride	0.5	U	0.41	0.5	5	ug/L
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.41	0.5	5	ug/L
75-34-3	1,1-Dichloroethane	0.5	U	0.36	0.5	5	ug/L
110-82-7	Cyclohexane	0.5	U	0.2	0.5	5	ug/L
78-93-3	2-Butanone	2.5	U	1.3	2.5	25	ug/L
56-23-5	Carbon Tetrachloride	0.5	U	0.2	0.5	5	ug/L
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.35	0.5	5	ug/L
74-97-5	Bromochloromethane	0.5	U	0.2	0.5	5	ug/L
67-66-3	Chloroform	0.5	U	0.34	0.5	5	ug/L
71-55-6	1,1,1-Trichloroethane	0.75	U	0.4	0.75	5	ug/L
108-87-2	Methylcyclohexane	0.5	U	0.2	0.5	5	ug/L
71-43-2	Benzene	0.5	U	0.32	0.5	5	ug/L
107-06-2	1,2-Dichloroethane	0.75	U	0.48	0.75	5	ug/L
79-01-6	Trichloroethene	0.5	U	0.28	0.5	5	ug/L
78-87-5	1,2-Dichloropropane	0.5	U	0.46	0.5	5	ug/L
75-27-4	Bromodichloromethane	0.5	U	0.36	0.5	5	ug/L
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.1	2.5	25	ug/L
108-88-3	Toluene	0.5	U	0.37	0.5	5	ug/L
10061-02-6	t-1,3-Dichloropropene	0.5	U	0.29	0.5	5	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.31	0.5	5	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	TW-1	SDG No.:	H1788
Lab Sample ID:	H1788-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN031280.D	1		03/15/16 16:45	VN031516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	0.5	U	0.38	0.5	5	ug/L
591-78-6	2-Hexanone	3.8	U	1.9	3.8	25	ug/L
124-48-1	Dibromochloromethane	0.5	U	0.2	0.5	5	ug/L
106-93-4	1,2-Dibromoethane	0.5	U	0.41	0.5	5	ug/L
127-18-4	Tetrachloroethene	0.5	U	0.27	0.5	5	ug/L
108-90-7	Chlorobenzene	0.5	U	0.49	0.5	5	ug/L
100-41-4	Ethyl Benzene	0.5	U	0.2	0.5	5	ug/L
179601-23-1	m/p-Xylenes	1	U	0.95	1	10	ug/L
95-47-6	o-Xylene	0.5	U	0.43	0.5	5	ug/L
100-42-5	Styrene	0.5	U	0.36	0.5	5	ug/L
75-25-2	Bromoform	0.5	U	0.47	0.5	5	ug/L
98-82-8	Isopropylbenzene	0.5	U	0.45	0.5	5	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	0.31	0.5	5	ug/L
103-65-1	n-propylbenzene	0.5	U	0.45	0.5	5	ug/L
108-67-8	1,3,5-Trimethylbenzene	0.5	U	0.46	0.5	5	ug/L
98-06-6	tert-Butylbenzene	0.5	U	0.44	0.5	5	ug/L
95-63-6	1,2,4-Trimethylbenzene	0.5	U	0.38	0.5	5	ug/L
135-98-8	sec-Butylbenzene	0.5	U	0.46	0.5	5	ug/L
99-87-6	p-Isopropyltoluene	0.5	U	0.43	0.5	5	ug/L
541-73-1	1,3-Dichlorobenzene	0.5	U	0.43	0.5	5	ug/L
106-46-7	1,4-Dichlorobenzene	0.5	U	0.32	0.5	5	ug/L
104-51-8	n-Butylbenzene	0.5	U	0.41	0.5	5	ug/L
95-50-1	1,2-Dichlorobenzene	0.5	U	0.45	0.5	5	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	2	U	0.46	2	5	ug/L
120-82-1	1,2,4-Trichlorobenzene	4.9	J	0.2	0.5	5	ug/L
91-20-3	Naphthalene	6.9		0.2	0.5	5	ug/L
87-61-6	1,2,3-Trichlorobenzene	0.5	U	0.2	0.5	5	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	55.3		61 - 141		111%	SPK: 50
1868-53-7	Dibromofluoromethane	50.9		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	54.8		65 - 126		110%	SPK: 50
460-00-4	4-Bromofluorobenzene	60.3		58 - 135		121%	SPK: 50

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	TW-1	SDG No.:	H1788
Lab Sample ID:	H1788-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN031280.D	1		03/15/16 16:45	VN031516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	823588	7.75				
540-36-3	1,4-Difluorobenzene	1537020	8.68				
3114-55-4	Chlorobenzene-d5	1590940	11.52				
3855-82-1	1,4-Dichlorobenzene-d4	602157	13.47				
TENTATIVE IDENTIFIED COMPOUNDS							
87-68-3	Hexachlorobutadiene	0.76	J			15.16	ug/L

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/14/12
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-68	Matrix:	Water
Analytical Method:	SW0H26	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-2H4 ID : 6.H5	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN631H01.D	1		63/15/12 18:14	VN631512

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
85-81-0	Dichlorodifluoromethane	6.5	U	6.H	6.5	5	ug/L
84-08-3	Chloromethane	6.5	U	6.H	6.5	5	ug/L
85-61-4	Vinyl Chloride	6.5	U	6.34	6.5	5	ug/L
84-03-9	Bromomethane	6.5	U	6.H	6.5	5	ug/L
85-66-3	Chloroethane	6.5	U	6.H	6.5	5	ug/L
85-29-4	Trichlorofluoromethane	6.5	U	6.35	6.5	5	ug/L
82-13-1	1,1,H-Trichlorotrifluoroethane	6.5	U	6.45	6.5	5	ug/L
85-35-4	1,1-Dichloroethene	6.5	U	6.48	6.5	5	ug/L
28-24-1	Acetone	H5	U	6.5	H5	H5	ug/L
85-15-6	Carbon Disulfide	6.5	U	6.H	6.5	5	ug/L
1234-64-4	Methyl tert-butyl Ether	6.5	U	6.35	6.5	5	ug/L
89-H6-9	Methyl Acetate	H	U	6.H	H	5	ug/L
85-69-H	Methylene Chloride	6.5	U	6.41	6.5	5	ug/L
152-26-5	trans-1,H-Dichloroethene	6.5	U	6.41	6.5	5	ug/L
85-34-3	1,1-Dichloroethane	6.5	U	6.32	6.5	5	ug/L
116-0H-8	Cyclohexane	6.5	U	6.H	6.5	5	ug/L
80-93-3	H-Butanone	H5	U	1.3	H5	H5	ug/L
52-HB-5	Carbon Tetrachloride	6.5	U	6.H	6.5	5	ug/L
152-59-H	cis-1,H-Dichloroethene	6.5	U	6.35	6.5	5	ug/L
84-98-5	Bromochloromethane	6.5	U	6.H	6.5	5	ug/L
28-22-3	Chloroform	6.5	U	6.34	6.5	5	ug/L
81-55-2	1,1,1-Trichloroethane	6.85	U	6.4	6.85	5	ug/L
160-08-H	Methylcyclohexane	6.5	U	6.H	6.5	5	ug/L
81-43-H	Benzene	6.5	U	6.3H	6.5	5	ug/L
168-62-H	1,H-Dichloroethane	6.85	U	6.40	6.85	5	ug/L
89-61-2	Trichloroethene	6.5	U	6.H0	6.5	5	ug/L
80-08-5	1,H-Dichloropropane	6.5	U	6.42	6.5	5	ug/L
85-H8-4	Bromodichloromethane	6.5	U	6.32	6.5	5	ug/L
160-16-1	4-Methyl-H-Pentanone	H5	U	H1	H5	H5	ug/L
160-00-3	Toluene	6.5	U	6.38	6.5	5	ug/L
16621-6H-2	t-1,3-Dichloropropene	6.5	U	6.H9	6.5	5	ug/L
16621-61-5	cis-1,3-Dichloropropene	6.5	U	6.31	6.5	5	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/14/12
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-68	Matrix:	Water
Analytical Method:	SW0H26	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-2H4 ID : 6.H5	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN631H01.D	1		63/15/12 18:14	VN631512

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
89-66-5	1,1,H-Trichloroethane	6.5	U	6.30	6.5	5	ug/L
591-80-2	H-7 exanone	3.0	U	1.9	3.0	H5	ug/L
1H4-40-1	Dibromochloromethane	6.5	U	6.H	6.5	5	ug/L
162-93-4	1,H-Dibromoethane	6.5	U	6.41	6.5	5	ug/L
1H8-10-4	Tetrachloroethene	6.5	U	6.H8	6.5	5	ug/L
160-96-8	Chlorobenzene	6.5	U	6.49	6.5	5	ug/L
166-41-4	Ethyl Benzene	6.5	U	6.H	6.5	5	ug/L
189261-H3-1	m/p-Xylenes	1	U	6.95	1	16	ug/L
95-48-2	o-Xylene	6.5	U	6.43	6.5	5	ug/L
166-4H-5	Styrene	6.5	U	6.32	6.5	5	ug/L
85-H5-H	Bromoform	6.5	U	6.48	6.5	5	ug/L
90-0H-0	Isopropylbenzene	6.5	U	6.45	6.5	5	ug/L
89-34-5	1,1,H,H-Tetrachloroethane	6.5	U	6.31	6.5	5	ug/L
163-25-1	n-propylbenzene	6.5	U	6.45	6.5	5	ug/L
160-28-0	1,3,5-Trimethylbenzene	6.5	U	6.42	6.5	5	ug/L
90-62-2	tert-Butylbenzene	6.5	U	6.44	6.5	5	ug/L
95-23-2	1,H,4-Trimethylbenzene	6.5	U	6.30	6.5	5	ug/L
135-90-0	sec-Butylbenzene	6.5	U	6.42	6.5	5	ug/L
99-08-2	p-Isopropyltoluene	6.5	U	6.43	6.5	5	ug/L
541-83-1	1,3-Dichlorobenzene	6.5	U	6.43	6.5	5	ug/L
162-42-8	1,4-Dichlorobenzene	6.5	U	6.3H	6.5	5	ug/L
164-51-0	n-Butylbenzene	6.5	U	6.41	6.5	5	ug/L
95-56-1	1,H-Dichlorobenzene	6.5	U	6.45	6.5	5	ug/L
92-1H-0	1,H-Dibromo-3-Chloropropane	H	U	6.42	H	5	ug/L
1H6-0H-1	1,H,4-Trichlorobenzene	6.5	U	6.H	6.5	5	ug/L
91-H6-3	Naphthalene	6.5	U	6.H	6.5	5	ug/L
08-21-2	1,H,3-Trichlorobenzene	6.5	U	6.H	6.5	5	ug/L
1H3-91-1	1,4-Dioxane	166	U	166	166	166	ug/L
SURROGATES							
18626-68-6	1,H-Dichloroethane-d4	55.1		21 - 141		116%	SPK: 56
1020-53-8	Dibromofluoromethane	51.4		29 - 133		163%	SPK: 56
H638-H2-5	Toluene-d0	54.3		25 - 1H2		169%	SPK: 56
426-66-4	4-Bromofluorobenzene	59.3		50 - 135		119%	SPK: 56

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/14/12
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-68	Matrix:	Water
Analytical Method:	SW0H26	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-2H4 ID : 6.H5	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN631H01.D	1		63/15/12 18:14	VN631512

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
323-8H-4	Pentafluorobenzene	013HB1	8.85				
546-32-3	1,4-Difluorobenzene	154H5H6	0.20				
3114-55-4	Chlorobenzene-d5	1520HB6	11.5H				
3055-0H-1	1,4-Dichlorobenzene-d4	594HB9	13.48				

U J Not Detected
LOQ J Limit of Quantitation
MDL J Method Detection Limit
LOD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
B J Analyte Found in Associated Method Blan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1H/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-60	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32H ID : 6.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN641202.D	1		64/15/13 18:H4	VN641513

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
85-81-0	Dichlorodifluoromethane	6.5	U	6.2	6.5	5	ug/L
8H-08-4	Chloromethane	6.5	U	6.2	6.5	5	ug/L
85-61-H	Vinyl Chloride	6.5	U	6.4H	6.5	5	ug/L
8H-04-9	Bromomethane	6.5	U	6.2	6.5	5	ug/L
85-66-4	Chloroethane	6.5	U	6.2	6.5	5	ug/L
85-39-H	Trichlorofluoromethane	6.5	U	6.45	6.5	5	ug/L
83-14-1	1,1,2-Trichlorotrifluoroethane	6.5	U	6.H5	6.5	5	ug/L
85-45-H	1,1-Dichloroethene	6.5	U	6.H8	6.5	5	ug/L
38-3H-1	Acetone	2.5	U	6.5	2.5	25	ug/L
85-15-6	Carbon Disulfide	6.5	U	6.2	6.5	5	ug/L
134H-6H-H	Methyl tert-butyl Ether	6.5	U	6.45	6.5	5	ug/L
89-26-9	Methyl Acetate	2	U	6.2	2	5	ug/L
85-69-2	Methylene Chloride	6.5	U	6.H1	6.5	5	ug/L
153-36-5	trans-1,2-Dichloroethene	6.5	U	6.H1	6.5	5	ug/L
85-4H-4	1,1-Dichloroethane	6.5	U	6.43	6.5	5	ug/L
116-02-8	Cyclohexane	6.5	U	6.2	6.5	5	ug/L
80-94-4	2-Butanone	2.5	U	1.4	2.5	25	ug/L
53-24-5	Carbon Tetrachloride	6.5	U	6.2	6.5	5	ug/L
153-59-2	cis-1,2-Dichloroethene	6.5	U	6.45	6.5	5	ug/L
8H-98-5	Bromochloromethane	6.5	U	6.2	6.5	5	ug/L
38-33-4	Chloroform	6.5	U	6.4H	6.5	5	ug/L
81-55-3	1,1,1-Trichloroethane	6.85	U	6.H	6.85	5	ug/L
160-08-2	Methylcyclohexane	6.5	U	6.2	6.5	5	ug/L
81-H4-2	Benzene	6.5	U	6.42	6.5	5	ug/L
168-63-2	1,2-Dichloroethane	6.85	U	6.H0	6.85	5	ug/L
89-61-3	Trichloroethene	6.5	U	6.20	6.5	5	ug/L
80-08-5	1,2-Dichloropropane	6.5	U	6.H3	6.5	5	ug/L
85-28-H	Bromodichloromethane	6.5	U	6.43	6.5	5	ug/L
160-16-1	H-Methyl-2-Pentanone	2.5	U	2.1	2.5	25	ug/L
160-00-4	Toluene	6.5	U	6.48	6.5	5	ug/L
16631-62-3	t-1,4-Dichloropropene	6.5	U	6.29	6.5	5	ug/L
16631-61-5	cis-1,4-Dichloropropene	6.5	U	6.41	6.5	5	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1H/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-60	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32H ID : 6.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN641202.D	1		64/15/13 18:H4	VN641513

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
89-66-5	1,1,2-Trichloroethane	6.5	U	6.40	6.5	5	ug/L
591-80-3	2-7 exanone	4.0	U	1.9	4.0	25	ug/L
12H-HD-1	Dibromochloromethane	6.5	U	6.2	6.5	5	ug/L
163-94-H	1,2-Dibromoethane	6.5	U	6.H1	6.5	5	ug/L
128-10-H	Tetrachloroethene	6.5	U	6.28	6.5	5	ug/L
160-96-8	Chlorobenzene	6.5	U	6.H9	6.5	5	ug/L
166-H1-H	Ethyl Benzene	6.5	U	6.2	6.5	5	ug/L
189361-24-1	m/p-Xylenes	1	U	6.95	1	16	ug/L
95-H8-3	o-Xylene	6.5	U	6.H4	6.5	5	ug/L
166-H2-5	Styrene	6.5	U	6.43	6.5	5	ug/L
85-25-2	Bromoform	6.5	U	6.H8	6.5	5	ug/L
90-02-0	Isopropylbenzene	6.5	U	6.H5	6.5	5	ug/L
89-4H-5	1,1,2,2-Tetrachloroethane	6.5	U	6.41	6.5	5	ug/L
164-35-1	n-propylbenzene	6.5	U	6.H5	6.5	5	ug/L
160-38-0	1,4,5-Trimethylbenzene	6.5	U	6.H8	6.5	5	ug/L
90-63-3	tert-Butylbenzene	6.5	U	6.HH	6.5	5	ug/L
95-34-3	1,2,H-Trimethylbenzene	6.5	U	6.40	6.5	5	ug/L
145-90-0	sec-Butylbenzene	6.5	U	6.H8	6.5	5	ug/L
99-08-3	p-Isopropyltoluene	6.5	U	6.H4	6.5	5	ug/L
5H1-84-1	1,4-Dichlorobenzene	6.5	U	6.H4	6.5	5	ug/L
163-H8-8	1,H-Dichlorobenzene	6.5	U	6.42	6.5	5	ug/L
16H-51-0	n-Butylbenzene	6.5	U	6.H1	6.5	5	ug/L
95-56-1	1,2-Dichlorobenzene	6.5	U	6.H5	6.5	5	ug/L
93-12-0	1,2-Dibromo-4-Chloropropane	2	U	6.H8	2	5	ug/L
126-02-1	1,2,H-Trichlorobenzene	6.5	U	6.2	6.5	5	ug/L
91-26-4	Naphthalene	6.5	U	6.2	6.5	5	ug/L
08-31-3	1,2,4-Trichlorobenzene	6.5	U	6.2	6.5	5	ug/L
124-91-1	1,H-Dioxane	166	U	166	166	166	ug/L
SURROGATES							
18636-68-6	1,2-Dichloroethane-dH	55.4		31 - 1H1		111%	SPK: 56
1030-54-8	Dibromofluoromethane	51.8		39 - 144		164%	SPK: 56
2648-23-5	Toluene-d0	5H4		35 - 123		169%	SPK: 56
H86-66-H	H-Bromofluorobenzene	59		50 - 145		110%	SPK: 56

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1H/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-60	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32H ID : 6.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN641202.D	1		64/15/13 18:H4	VN641513

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
434-82-H	Pentafluorobenzene	839614	8.85				
5H6-43-4	1,H-Difluorobenzene	1H41506	0.30				
411H-55-H	Chlorobenzene-d5	1HH3536	11.52				
4055-02-1	1,H-Dichlorobenzene-dH	5H1586	14.H8				

U J Not Detected
LOQ J Limit of Quantitation
MDL J Method Detection Limit
LOD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
B J Analyte Found in Associated Method Blan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1Q/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-69	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	H Units: mL	Final Vol:	H666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32Q ID : 6.2H	Level :	LOW

File ID/Bc z atch:	Dilution:	Prep Date	Date Analy5ed	Prep z atch ID
VN641204.D	1		64/1H/13 10:12	VN641H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
8H-81-0	Dichlorodifluoromethane	6.H	U	6.2	6.H	H	ug/L
8Q-08-4	Chloromethane	6.H	U	6.2	6.H	H	ug/L
8H-61-Q	Vinyl Chloride	6.H	U	6.4Q	6.H	H	ug/L
8Q-04-9	z romomethane	6.H	U	6.2	6.H	H	ug/L
8H-66-4	Chloroethane	6.H	U	6.2	6.H	H	ug/L
8H-39-Q	Trichlorofluoromethane	6.H	U	6.4H	6.H	H	ug/L
83-14-1	1,1,2-Trichlorotrifluoroethane	6.H	U	6.QH	6.H	H	ug/L
8H-4H-Q	1,1-Dichloroethene	6.H	U	6.Q8	6.H	H	ug/L
38-3Q-1	Acetone	2.H	U	6.H	2.H	2H	ug/L
8H-1H-6	Carbon Disulfide	6.H	U	6.2	6.H	H	ug/L
134Q-6Q-Q	Methyl tert-butyl Ether	6.H	U	6.4H	6.H	H	ug/L
89-26-9	Methyl Acetate	2	U	6.2	2	H	ug/L
8H-69-2	Methylene Chloride	6.H	U	6.Q1	6.H	H	ug/L
1HB-36-H	trans-1,2-Dichloroethene	6.H	U	6.Q1	6.H	H	ug/L
8H-4Q-4	1,1-Dichloroethane	6.H	U	6.43	6.H	H	ug/L
116-02-8	Cyclohexane	6.H	U	6.2	6.H	H	ug/L
80-94-4	2-z utanone	2.H	U	1.4	2.H	2H	ug/L
HB-24-H	Carbon Tetrachloride	6.H	U	6.2	6.H	H	ug/L
1HB-H9-2	cis-1,2-Dichloroethene	6.H	U	6.4H	6.H	H	ug/L
8Q-98-H	z romochloromethane	6.H	U	6.2	6.H	H	ug/L
38-33-4	Chloroform	6.H	U	6.4Q	6.H	H	ug/L
81-HH-3	1,1,1-Trichloroethane	6.8H	U	6.Q	6.8H	H	ug/L
160-08-2	Methylcyclohexane	6.H	U	6.2	6.H	H	ug/L
81-Q4-2	z en5ene	6.H	U	6.42	6.H	H	ug/L
168-63-2	1,2-Dichloroethane	6.8H	U	6.Q0	6.8H	H	ug/L
89-61-3	Trichloroethene	6.H	U	6.20	6.H	H	ug/L
80-08-H	1,2-Dichloropropane	6.H	U	6.Q3	6.H	H	ug/L
8H-28-Q	z romodichloromethane	6.H	U	6.43	6.H	H	ug/L
160-16-1	Q-Methyl-2-Pentanone	2.H	U	2.1	2.H	2H	ug/L
160-00-4	Toluene	6.H	U	6.48	6.H	H	ug/L
16631-62-3	t-1,4-Dichloropropene	6.H	U	6.29	6.H	H	ug/L
16631-61-H	cis-1,4-Dichloropropene	6.H	U	6.41	6.H	H	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1Q/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-69	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	H Units: mL	Final Vol:	H566 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32Q ID : 6.2H	Level :	LOW

File ID/Bc z atch:	Dilution:	Prep Date	Date Analy5ed	Prep z atch ID
VN641204.D	1		64/1H/13 10:12	VN641H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
89-66-H	1,1,2-Trichloroethane	6.H	U	6.40	6.H	H	ug/L
H91-80-3	2-7 exanone	4.0	U	1.9	4.0	2H	ug/L
12Q-Q0-1	Dibromochloromethane	6.H	U	6.2	6.H	H	ug/L
163-94-Q	1,2-Dibromoethane	6.H	U	6.Q1	6.H	H	ug/L
128-10-Q	Tetrachloroethene	6.H	U	6.28	6.H	H	ug/L
160-96-8	Chloroben5ene	6.H	U	6.Q9	6.H	H	ug/L
166-Q1-Q	Ethyl z en5ene	6.H	U	6.2	6.H	H	ug/L
189361-24-1	m/p-Xylenes	1	U	6.9H	1	16	ug/L
9H-Q8-3	o-Xylene	6.H	U	6.Q4	6.H	H	ug/L
166-Q2-H	Styrene	6.H	U	6.43	6.H	H	ug/L
8H-2H-2	z romoform	6.H	U	6.Q8	6.H	H	ug/L
90-02-0	Isopropylben5ene	6.H	U	6.QH	6.H	H	ug/L
89-4Q-H	1,1,2,2-Tetrachloroethane	6.H	U	6.41	6.H	H	ug/L
164-3H-1	n-propylben5ene	6.H	U	6.QH	6.H	H	ug/L
160-38-0	1,4,H-Trimethylben5ene	6.H	U	6.Q3	6.H	H	ug/L
90-63-3	tert-z utylben5ene	6.H	U	6.QQ	6.H	H	ug/L
9H-34-3	1,2,Q-Trimethylben5ene	6.H	U	6.40	6.H	H	ug/L
14H-90-0	sec-z utylben5ene	6.H	U	6.Q3	6.H	H	ug/L
99-08-3	p-Isopropyltoluene	6.H	U	6.Q4	6.H	H	ug/L
HQ1-84-1	1,4-Dichloroben5ene	6.H	U	6.Q4	6.H	H	ug/L
163-Q3-8	1,Q-Dichloroben5ene	6.H	U	6.42	6.H	H	ug/L
16Q-H1-0	n-z utylben5ene	6.H	U	6.Q1	6.H	H	ug/L
9H-H6-1	1,2-Dichloroben5ene	6.H	U	6.QH	6.H	H	ug/L
93-12-0	1,2-Dibromo-4-Chloropropane	2	U	6.Q3	2	H	ug/L
126-02-1	1,2,Q-Trichloroben5ene	6.H	U	6.2	6.H	H	ug/L
91-26-4	Naphthalene	6.H	U	6.2	6.H	H	ug/L
08-31-3	1,2,4-Trichloroben5ene	6.H	U	6.2	6.H	H	ug/L
124-91-1	1,Q-Dioxane	166	U	166	166	166	ug/L
SURROGATES							
18636-68-6	1,2-Dichloroethane-dQ	H3.2		31 - 1Q1		112%	SPK: H6
1030-H4-8	Dibromofluoromethane	H1.8		39 - 144		164%	SPK: H6
2648-23-H	Toluene-d0	HQ1		3H- 123		160%	SPK: H6
Q36-66-Q	Q-z romofluoroben5ene	H3.Q		H0 - 14H		114%	SPK: H6

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1Q/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-69	Matrix:	Water
Analytical Method:	SW0236	% Moisture:	166
Sample Wt/Vol:	H Units: mL	Final Vol:	H566 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-32Q ID : 6.2H	Level :	LOW

File ID/Bc z atch:	Dilution:	Prep Date	Date Analy5ed	Prep z atch ID
VN641204.D	1		64/1H/13 10:12	VN641H13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
434-82-Q	Pentafluoroben5ene	820391	8.8H				
HQ6-43-4	1,Q-Difluoroben5ene	1486986	0.30				
411Q-HH-Q	Chloroben5ene-dH	1438226	11.H2				
40HH-02-1	1,Q-Dichloroben5ene-dQ	Q86338	14.Q8				

U J Not Detected
LOB J Limit of Buantitation
MDL J Method Detection Limit
LOD J Limit of Detection
E J Value Exceeds Calibration Range
B J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
z J Analyte Found in Associated Method z lan*
N J Presumptive Evidence of a Compound
= J Values outside of BC limits
D J Dilution
() J Laboratory In7 ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260B

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
VD0318SBL01	VD0318SBL01	1,2-Dichloroethane-d4	50	59.62	119	56	120
		Dibromofluoromethane	50	61.93	124	57	135
		Toluene-d8	50	56.79	114	67	123
		4-Bromofluorobenzene	50	59.92	120	33	141

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Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
H1788-01	SB-1(8-9)	1,2-Dichloroethane-d4	50	45.78	92		56	120
		Dibromofluoromethane	50	40.79	82		57	135
		Toluene-d8	50	36.68	73		67	123
		4-Bromofluorobenzene	50	38.64	77		33	141
H1788-02	SB-2(8-9)	1,2-Dichloroethane-d4	50	44.55	89		56	120
		Dibromofluoromethane	50	36.88	74		57	135
		Toluene-d8	50	34.98	70		67	123
		4-Bromofluorobenzene	50	35.91	72		33	141
H1788-03	SB-3(7-8)	1,2-Dichloroethane-d4	50	40.34	81		56	120
		Dibromofluoromethane	50	37.27	75		57	135
		Toluene-d8	50	36.02	72		67	123
		4-Bromofluorobenzene	50	36.5	73		33	141
H1788-04	SB-4(7-8)	1,2-Dichloroethane-d4	50	53.73	107		56	120
		Dibromofluoromethane	50	45.23	90		57	135
		Toluene-d8	50	42.48	85		67	123
		4-Bromofluorobenzene	50	42.41	85		33	141
H1788-05	SB-5(9-10)	1,2-Dichloroethane-d4	50	24.97	50	*	56	120
		Dibromofluoromethane	50	27.79	56	*	57	135
		Toluene-d8	50	26.24	52	*	67	123
		4-Bromofluorobenzene	50	26.32	53		33	141
H1788-05RE	SB-5(9-10)RE	1,2-Dichloroethane-d4	50	67.63	135	*	56	120
		Dibromofluoromethane	50	42.24	84		57	135
		Toluene-d8	50	35.57	71		67	123
		4-Bromofluorobenzene	50	38.37	77		33	141
H1788-06	TW-1	1,2-Dichloroethane-d4	50	55.26	111		61	141
		Dibromofluoromethane	50	50.88	102		69	133
		Toluene-d8	50	54.83	110		65	126
		4-Bromofluorobenzene	50	60.33	121		58	135
H1788-07	TW-2	1,2-Dichloroethane-d4	50	55.1	110		61	141
		Dibromofluoromethane	50	51.38	103		69	133
		Toluene-d8	50	54.27	109		65	126
		4-Bromofluorobenzene	50	59.33	119		58	135
H1788-08	TW-4	1,2-Dichloroethane-d4	50	55.34	111		61	141
		Dibromofluoromethane	50	51.67	103		69	133
		Toluene-d8	50	54.33	109		65	126
		4-Bromofluorobenzene	50	58.95	118		58	135
H1788-09	TW-5	1,2-Dichloroethane-d4	50	56.15	112		61	141
		Dibromofluoromethane	50	51.65	103		69	133
		Toluene-d8	50	54.05	108		65	126
		4-Bromofluorobenzene	50	56.42	113		58	135
VD0317SBL01	VD0317SBL01	1,2-Dichloroethane-d4	50	41.16	82		56	120
		Dibromofluoromethane	50	45.63	91		57	135
		Toluene-d8	50	47.77	96		67	123
		4-Bromofluorobenzene	50	42.56	85		33	141
VD0317SBS01	VD0317SBS01	1,2-Dichloroethane-d4	50	37.46	75		56	120
		Dibromofluoromethane	50	41.49	83		57	135
		Toluene-d8	50	43.04	86		67	123
		4-Bromofluorobenzene	50	38.54	77		33	141
VD0317SBSD01	VD0317SBSD01	1,2-Dichloroethane-d4	50	39.54	79		56	120
		Dibromofluoromethane	50	42.19	84		57	135
		Toluene-d8	50	43.68	87		67	123
		4-Bromofluorobenzene	50	39.67	79		33	141

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Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
VD0318SBS01	VD0318SBS01	1,2-Dichloroethane-d4	50	51.3	103	56	120
		Dibromofluoromethane	50	48.62	97	57	135
		Toluene-d8	50	45.93	92	67	123
		4-Bromofluorobenzene	50	48.18	96	33	141
VN0315WBL01	VN0315WBL01	1,2-Dichloroethane-d4	50	54.43	109	61	141
		Dibromofluoromethane	50	50.98	102	69	133
		Toluene-d8	50	54.39	109	65	126
		4-Bromofluorobenzene	50	56.35	113	58	135
VN0315WBS01	VN0315WBS01	1,2-Dichloroethane-d4	50	56.75	114	61	141
		Dibromofluoromethane	50	55.47	111	69	133
		Toluene-d8	50	56.12	112	65	126
		4-Bromofluorobenzene	50	54.91	110	58	135
VN0315WBSD0	VN0315WBSD01	1,2-Dichloroethane-d4	50	57.55	115	61	141
		Dibromofluoromethane	50	55.58	111	69	133
		Toluene-d8	50	56.98	114	65	126
		4-Bromofluorobenzene	50	56.03	112	58	135

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VD048949.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0317SBS01	Dichlorodifluoromethane	20	15.8	ug/Kg	79			50	142	
	Chloromethane	20	19.7	ug/Kg	99			65	131	
	Vinyl chloride	20	17.8	ug/Kg	89			67	130	
	Bromomethane	20	19.2	ug/Kg	96			64	136	
	Chloroethane	20	17.4	ug/Kg	87			66	146	
	Trichlorofluoromethane	20	16	ug/Kg	80			72	134	
	1,1,2-Trichlorotrifluoroethane	20	18.6	ug/Kg	93			73	133	
	1,1-Dichloroethene	20	19.3	ug/Kg	97			74	130	
	Acetone	100	92.4	ug/Kg	92			57	135	
	Carbon disulfide	20	18	ug/Kg	90			71	130	
	Methyl tert-butyl Ether	20	18.2	ug/Kg	91			76	123	
	Methyl Acetate	20	21.3	ug/Kg	106			62	146	
	Methylene Chloride	20	20.3	ug/Kg	102			73	134	
	trans-1,2-Dichloroethene	20	19.9	ug/Kg	100			76	125	
	1,1-Dichloroethane	20	19.2	ug/Kg	96			78	124	
	Cyclohexane	20	18.2	ug/Kg	91			72	130	
	2-Butanone	100	100	ug/Kg	100			68	132	
	Carbon Tetrachloride	20	16.6	ug/Kg	83			76	127	
	cis-1,2-Dichloroethene	20	20.4	ug/Kg	102			78	122	
	Bromochloromethane	20	21	ug/Kg	105			66	133	
	Chloroform	20	17.8	ug/Kg	89			79	122	
	1,1,1-Trichloroethane	20	17.1	ug/Kg	86			76	126	
	Methylcyclohexane	20	19.1	ug/Kg	96			75	127	
	Benzene	20	20	ug/Kg	100			79	124	
	1,2-Dichloroethane	20	17.5	ug/Kg	88			78	124	
	Trichloroethene	20	19	ug/Kg	95			78	124	
	1,2-Dichloropropane	20	19.5	ug/Kg	98			76	124	
	Bromodichloromethane	20	18	ug/Kg	90			78	122	
	4-Methyl-2-Pentanone	100	100	ug/Kg	100			73	135	
	Toluene	20	19.4	ug/Kg	97			78	124	
	t-1,3-Dichloropropene	20	18.1	ug/Kg	91			77	123	
	cis-1,3-Dichloropropene	20	18.2	ug/Kg	91			79	120	
	1,1,2-Trichloroethane	20	18.6	ug/Kg	93			78	123	
	2-Hexanone	100	100	ug/Kg	100			71	134	
	Dibromochloromethane	20	17.6	ug/Kg	88			77	121	
	1,2-Dibromoethane	20	18.4	ug/Kg	92			78	123	
	Tetrachloroethene	20	19.4	ug/Kg	97			67	134	
	Chlorobenzene	20	19.2	ug/Kg	96			80	121	
	Ethyl Benzene	20	19.7	ug/Kg	99			80	123	
	m/p-Xylenes	40	38.9	ug/Kg	97			79	126	
	o-Xylene	20	19.2	ug/Kg	96			80	122	
	Styrene	20	19.5	ug/Kg	98			81	121	
	Bromoform	20	18.2	ug/Kg	91			73	124	
	Isopropylbenzene	20	20.9	ug/Kg	104			79	123	
	1,1,2,2-Tetrachloroethane	20	21.2	ug/Kg	106			79	124	
	N-propylbenzene	20	20.4	ug/Kg	102			80	125	
	1,3,5-Trimethylbenzene	20	20	ug/Kg	100			81	123	
	tert-Butylbenzene	20	19.8	ug/Kg	99			81	123	
	1,2,4-Trimethylbenzene	20	20	ug/Kg	100			81	122	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VD048949.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0317SBS01	Sec-butylbenzene	20	20.1	ug/Kg	101			81	126	
	p-Isopropyltoluene	20	20.2	ug/Kg	101			81	124	
	1,3-Dichlorobenzene	20	19.7	ug/Kg	99			82	120	
	1,4-Dichlorobenzene	20	19.8	ug/Kg	99			81	120	
	n-Butylbenzene	20	20.4	ug/Kg	102			75	129	
	1,2-Dichlorobenzene	20	20	ug/Kg	100			82	118	
	1,2-Dibromo-3-Chloropropane	20	19.1	ug/Kg	96			72	127	
	1,2,4-Trichlorobenzene	20	19.3	ug/Kg	97			75	125	
	Naphthalene	20	19.7	ug/Kg	99			71	126	
	1,2,3-Trichlorobenzene	20	19.1	ug/Kg	96			79	123	
	1,4-Dioxane	400	420	ug/Kg	105			50	150	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VD0489. 0iD

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0317SBSD01	Dchl ordr fcumrdre tal n2t	10	5. i7	m/KC/	g8	5		. 0	541	10
	6 l ordre tal n2t	10	10i5	m/KC/	505	1		7.	535	10
	Vc2yohl ordcf t	10	58i3	m/KC/	91	3		7g	530	10
	Bdre re tal n2t	10	5gi1	m/KC/	87	55		74	537	10
	6 l ordr tal n2t	10	5gi.	m/KC/	88	5		77	547	10
	Tdchl ordrumrdre tal n2t	10	57i5	m/KC/	85	5		g1	534	10
	5,5,1-Tdchl ordradumrdr tal n2t	10	59	m/KC/	9.	1		g3	533	10
	5,5-Dchl ordr tal t 2t	10	59ig	m/KC/	99	1		g4	530	10
	Ahtar 2t	500	97i3	m/KC/	97	4		. g	53.	10
	6 ndbr 2 fcsmucf t	10	5gi7	m/KC/	88	1		g5	530	10
	Mtal yoatda-bmayoEal t d	10	58i9	m/KC/	9.	4		g7	513	10
	Mtal yoAhtanat	10	13i5	m/KC/	557	9		71	547	10
	Mtal yct 2t 6 l ordcf t	10	10i8	m/KC/	504	1		g3	534	10
	adh2s-5,1-Dchl ordr tal t 2t	10	10i.	m/KC/	503	3		g7	51.	10
	5,5-Dchl ordr tal n2t	10	59i4	m/KC/	9g	5		g8	514	10
	6 yhorl t xn2t	10	58i9	m/KC/	9.	4		g1	530	10
	1-Bman2r 2t	500	550	m/KC/	550	50		78	531	10
	6 ndbr 2 Ttadhhl ordcf t	10	57i.	m/KC/	83	0		g7	51g	10
	hcs-5,1-Dchl ordr tal t 2t	10	10i3	m/KC/	501	0		g8	511	10
	Bdre rhl ordre tal n2t	10	10i7	m/KC/	503	1		77	533	10
	6 l ordrurde	10	58i5	m/KC/	95	1		g9	511	10
	5,5,5-Tdchl ordr tal n2t	10	5gi4	m/KC/	8g	5		g7	517	10
	Mtal ydhyhorl t xn2t	10	59i5	m/KC/	97	0		g.	51g	10
	Bt 2zt 2t	10	59ig	m/KC/	99	5		g9	514	10
	5,1-Dchl ordr tal n2t	10	5gi8	m/KC/	89	5		g8	514	10
	Tdchl ordr tal t 2t	10	58i.	m/KC/	93	1		g8	514	10
	5,1-Dchl ordr pdr pn2t	10	59i5	m/KC/	97	1		g7	514	10
	Bdre rfchl ordre tal n2t	10	5gi4	m/KC/	8g	3		g8	511	10
	4-Mtal yo-1-Pt 2an2r 2t	500	550	m/KC/	550	50		g3	53.	10
	Tr ont 2t	10	59	m/KC/	9.	1		g8	514	10
	a-5,3-Dchl ordr pdr pt 2t	10	5gi9	m/KC/	90	5		gg	513	10
	hcs-5,3-Dchl ordr pdr pt 2t	10	58ig	m/KC/	94	3		g9	510	10
	5,5,1-Tdchl ordr tal n2t	10	59i5	m/KC/	97	3		g8	513	10
	1-Ht xn2r 2t	500	500	m/KC/	500	0		g5	534	10
	Dcbdre rhl ordre tal n2t	10	5gi7	m/KC/	88	0		gg	515	10
	5,1-Dcbdre rtal n2t	10	58i7	m/KC/	93	5		g8	513	10
	Ttadhhl ordr tal t 2t	10	59i5	m/KC/	97	5		7g	534	10
	6 l ordr bt 2zt 2t	10	59i1	m/KC/	97	0		80	515	10
	Eal yoBt 2zt 2t	10	59i4	m/KC/	9g	1		80	513	10
	e Kp-Xyct 2t s	40	39i5	m/KC/	98	5		g9	517	10
	r -Xyct 2t	10	59i3	m/KC/	9g	5		80	511	10
	Saydt 2t	10	59i3	m/KC/	9g	5		85	515	10
	Bdre rurde	10	58i1	m/KC/	95	0		g3	514	10
	Isr pdr pydbt 2zt 2t	10	10ig	m/KC/	504	0		g9	513	10
	5,5,1,1-Ttadhhl ordr tal n2t	10	15i5	m/KC/	507	0		g9	514	10
	N-pdr pydbt 2zt 2t	10	10i7	m/KC/	503	5		80	51.	10
	5,3,. -Tdce tal ydbt 2zt 2t	10	10	m/KC/	500	0		85	513	10
	atda-Bmaydbt 2zt 2t	10	10ig	m/KC/	504	.		85	513	10
	5,1,4-Tdce tal ydbt 2zt 2t	10	59i9	m/KC/	500	0		85	511	10

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: **H1788**

Client: **AKRF Engineering, P.C.**

Analytical Method: **SW8260C** **Datafile :** VD0489. 0iD

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0317SBSD01	St h-bmaydbt 2zt 2t	10	10i1	m/ KC/	505	0		85	517	10
	p-Isr pdr pyoar ont 2t	10	59i9	m/ KC/	500	5		85	514	10
	5,3-Ddhl or dr bt 2zt 2t	10	59i1	m/ KC/	97	3		81	510	10
	5,4-Ddhl or dr bt 2zt 2t	10	59i7	m/ KC/	98	5		85	510	10
	2-Bmaydbt 2zt 2t	10	59i9	m/ KC/	500	1		g.	519	10
	5,1-Ddhl or dr bt 2zt 2t	10	59i7	m/ KC/	98	1		81	558	10
	5,1-Ddbdr e r -3-6 l or dr pdr pn2t	10	58i9	m/ KC/	9.	5		g1	51g	10
	5,1,4-Tdchl or dr bt 2zt 2t	10	59i7	m/ KC/	98	5		g.	51.	10
	Nnpl al nct 2t	10	10i1	m/ KC/	505	1		g5	517	10
	5,1,3-Tdchl or dr bt 2zt 2t	10	59i4	m/ KC/	9g	5		g9	513	10
	5,4-Dcr xn2t	400	440	m/ KC/	550	.		. 0	5. 0	10

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VD0489. i dD

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0318SBS01	DHl ordfduhmedfdt amo21a	i 0	i 0c4	eg/Kg	50i			70	54i	
	Cordfdt amo21a	i 0	58c	eg/Kg	94			67	535	
	Vhl yr l ordfhua	i 0	59c9	eg/Kg	500			6.	530	
	Bfdt dt amo21a	i 0	i 0c3	eg/Kg	50i			64	536	
	Cordfdamo21a	i 0	i 0c5	eg/Kg	505			66	546	
	TfHl ordfdmedfdt amo21a	i 0	i i c	eg/Kg	554			. i	534	
	5,5,i -TfHl ordfdmfhmedfdamo21a	i 0	i 5ci	eg/Kg	506			. 3	533	
	5,5-DHl ordfdamoa1a	i 0	59c8	eg/Kg	99			. 4	530	
	Al amd1a	500	500	eg/Kg	500			7.	537	
	C2fbd1 ulsemhua	i 0	5.	eg/Kg	87			. 5	530	
	Mamoyr mafn-benyr Emoaf	i 0	i 0c4	eg/Kg	50i			. 6	5i 3	
	Mamoyr Al am2ma	i 0	i 0c7	eg/Kg	503			6i	546	
	Mamoyra1a Cordfhua	i 0	59c9	eg/Kg	500			. 3	534	
	mf21s-5,i -DHl ordfdamoa1a	i 0	58c6	eg/Kg	93			. 6	5i 7	
	5,5-DHl ordfdamo21a	i 0	i 0c9	eg/Kg	504			. 8	5i 4	
	Cyl rdoax21a	i 0	58c5	eg/Kg	95			. i	530	
	i -Ben21d1a	500	500	eg/Kg	500			68	53i	
	C2fbd1 Tamf2l ordfhua	i 0	i i c4	eg/Kg	55i			. 6	5i .	
	l hs-5,i -DHl ordfdamoa1a	i 0	59c3	eg/Kg	9.			. 8	5i i	
	Bfdt dl ordfdt amo21a	i 0	i 3c4	eg/Kg	55.			66	533	
	Cordfmdft	i 0	i 5c3	eg/Kg	506			. 9	5i i	
	5,5,5-TfHl ordfdamo21a	i 0	i 5c4	eg/Kg	50.			. 6	5i 6	
	Mamoyrl yl rdoax21a	i 0	59c9	eg/Kg	500			. 7	5i .	
	Ba1za1a	i 0	59c3	eg/Kg	9.			. 9	5i 4	
	5,i -DHl ordfdamo21a	i 0	i i c9	eg/Kg	557			. 8	5i 4	
	TfHl ordfdamoa1a	i 0	i 0c5	eg/Kg	505			. 8	5i 4	
	5,i -DHl ordfdpfdp21a	i 0	59c	eg/Kg	99			. 6	5i 4	
	Bfdt duHl ordfdt amo21a	i 0	i 5c	eg/Kg	509			. 8	5i i	
	4-Mamoyr-i -Pa1n21d1a	500	550	eg/Kg	550			. 3	537	
	Tdrea1a	i 0	i 0c5	eg/Kg	505			. 8	5i 4	
	n-5,3-DHl ordfdpfdpa1a	i 0	i 5ci	eg/Kg	506			. .	5i 3	
	l hs-5,3-DHl ordfdpfdpa1a	i 0	i 0c7	eg/Kg	503			. 9	5i 0	
	5,5,i -TfHl ordfdamo21a	i 0	i 0c3	eg/Kg	50i			. 8	5i 3	
	i -Hax21d1a	500	550	eg/Kg	550			. 5	534	
	DHbfdt dl ordfdt amo21a	i 0	i 5c9	eg/Kg	550			. .	5i 5	
	5,i -DHbfdt damo21a	i 0	i 5c3	eg/Kg	506			. 8	5i 3	
	Tamf2l ordfdamoa1a	i 0	59	eg/Kg	97			6.	534	
	Cordfdba1za1a	i 0	59c9	eg/Kg	500			80	5i 5	
	Emoyr Ba1za1a	i 0	i 0c4	eg/Kg	50i			80	5i 3	
	t /p-Xyra1as	40	40ci	eg/Kg	505			. 9	5i 6	
	d-Xyra1a	i 0	i 0ci	eg/Kg	505			80	5i i	
	Snyfa1a	i 0	i 0c9	eg/Kg	504			85	5i 5	
	Bfdt dmdft	i 0	59c3	eg/Kg	9.			. 3	5i 4	
	Isdpfdpyrba1za1a	i 0	i 0c	eg/Kg	504			. 9	5i 3	
	5,5,i ,i -Tamf2l ordfdamo21a	i 0	i 0ci	eg/Kg	505			. 9	5i 4	
	N-pfdpyrba1za1a	i 0	i 0c6	eg/Kg	503			80	5i 7	
	5,3,7-Tflt amoyrba1za1a	i 0	i 0c	eg/Kg	504			85	5i 3	
	mafn-Benyrba1za1a	i 0	i 5c8	eg/Kg	509			85	5i 3	
	5,i ,4-Tflt amoyrba1za1a	i 0	i 5c3	eg/Kg	506			85	5i i	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VD0489. i dD

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VD0318SBS01	Sal -benyrba1za1a	i 0	i 0c4	eg/Kg	50i			85	5i 6	
	p-Isdpfdpyrndrea1a	i 0	i 5	eg/Kg	507			85	5i 4	
	5,3-Dhl ordfdba1za1a	i 0	i 0	eg/Kg	500			8i	5i 0	
	5,4-Dhl ordfdba1za1a	i 0	i 0c7	eg/Kg	503			85	5i 0	
	1-Benyrba1za1a	i 0	i 5	eg/Kg	507			. 7	5i 9	
	5,i -Dhl ordfdba1za1a	i 0	i 5c5	eg/Kg	506			8i	558	
	5,i -Dlbfdt d-3-Cordfdpfdp21a	i 0	59c4	eg/Kg	9.			. i	5i .	
	5,i ,4-Tfhl ordfdba1za1a	i 0	i 0c9	eg/Kg	504			. 7	5i 7	
	N2porro2ra1a	i 0	i 0c3	eg/Kg	50i			. 5	5i 6	
	5,i ,3-Tfhl ordfdba1za1a	i 0	i 5c6	eg/Kg	508			. 9	5i 3	
	5,4-Dhdx21a	400	4i 0	eg/Kg	507			70	570	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VN031284.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0315WBS01	Dichlorodifluoromethane	20	20.4	ug/L	102			46	139	
	Chloromethane	20	22.5	ug/L	113			58	139	
	Vinyl chloride	20	20	ug/L	100			65	137	
	Bromomethane	20	17.5	ug/L	88			50	162	
	Chloroethane	20	18.9	ug/L	95			54	160	
	Trichlorofluoromethane	20	20.8	ug/L	104			67	143	
	1,1,2-Trichlorotrifluoroethane	20	20.5	ug/L	103			71	136	
	1,1-Dichloroethene	20	20.9	ug/L	104			69	134	
	Acetone	100	110	ug/L	110			41	181	
	Carbon disulfide	20	19.7	ug/L	99			63	138	
	Methyl tert-butyl Ether	20	21.2	ug/L	106			72	136	
	Methyl Acetate	20	22.7	ug/L	114			51	158	
	Methylene Chloride	20	20.6	ug/L	103			67	138	
	trans-1,2-Dichloroethene	20	20.9	ug/L	104			72	132	
	1,1-Dichloroethane	20	21	ug/L	105			74	135	
	Cyclohexane	20	21.7	ug/L	109			67	132	
	2-Butanone	100	110	ug/L	110			64	146	
	Carbon Tetrachloride	20	20.6	ug/L	103			71	134	
	cis-1,2-Dichloroethene	20	20.8	ug/L	104			74	130	
	Bromochloromethane	20	19.3	ug/L	97			71	136	
	Chloroform	20	21	ug/L	105			74	134	
	1,1,1-Trichloroethane	20	20.4	ug/L	102			74	133	
	Methylcyclohexane	20	20.8	ug/L	104			71	125	
	Benzene	20	21.1	ug/L	106			75	125	
	1,2-Dichloroethane	20	21.1	ug/L	106			76	130	
	Trichloroethene	20	20.9	ug/L	104			73	127	
	1,2-Dichloropropane	20	20.7	ug/L	104			76	125	
	Bromodichloromethane	20	20.6	ug/L	103			78	127	
	4-Methyl-2-Pentanone	100	120	ug/L	120			71	140	
	Toluene	20	22	ug/L	110			74	125	
	t-1,3-Dichloropropene	20	20.3	ug/L	102			74	131	
	cis-1,3-Dichloropropene	20	20.6	ug/L	103			74	128	
	1,1,2-Trichloroethane	20	21.6	ug/L	108			75	129	
	2-Hexanone	100	110	ug/L	110			62	153	
	Dibromochloromethane	20	21.1	ug/L	106			74	131	
	1,2-Dibromoethane	20	21.4	ug/L	107			74	129	
	Tetrachloroethene	20	21.8	ug/L	109			46	157	
	Chlorobenzene	20	20.8	ug/L	104			76	123	
	Ethyl Benzene	20	21.4	ug/L	107			75	126	
	m/p-Xylenes	40	43.6	ug/L	109			74	126	
	o-Xylene	20	22	ug/L	110			73	127	
	Styrene	20	22	ug/L	110			75	126	
	Bromoform	20	21.1	ug/L	106			66	130	
	Isopropylbenzene	20	21.5	ug/L	108			70	127	
	1,1,2,2-Tetrachloroethane	20	21.9	ug/L	110			66	131	
	N-propylbenzene	20	21.6	ug/L	108			71	126	
	1,3,5-Trimethylbenzene	20	21.9	ug/L	110			71	127	
	tert-Butylbenzene	20	21.7	ug/L	109			66	129	
	1,2,4-Trimethylbenzene	20	22.2	ug/L	111			69	130	

CHEMTECH

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VN031284.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0315WBS01	Sec-butylbenzene	20	21.7	ug/L	109			72	126	
	p-Isopropyltoluene	20	21.8	ug/L	109			71	125	
	1,3-Dichlorobenzene	20	21.2	ug/L	106			70	125	
	1,4-Dichlorobenzene	20	20.7	ug/L	104			71	124	
	n-Butylbenzene	20	21.2	ug/L	106			68	128	
	1,2-Dichlorobenzene	20	21	ug/L	105			71	126	
	1,2-Dibromo-3-Chloropropane	20	19.8	ug/L	99			62	134	
	1,2,4-Trichlorobenzene	20	20.8	ug/L	104			62	129	
	Naphthalene	20	20.3	ug/L	102			62	130	
	1,2,3-Trichlorobenzene	20	20.5	ug/L	103			58	130	
	1,4-Dioxane	400	450	ug/L	113			50	150	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VN031284.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0315WBSD01	Dichlorodifluoromethane	20	20.1	u/ IC	101	1		69	13g	20
	5 hloromethane	20	22.g	u/ IC	114	2		48	13g	20
	Vinyl chloride	20	20.8	u/ IC	106	6		94	137	20
	Bromomethane	20	1g.9	u/ IC	g8	11		40	192	20
	5 hloroethane	20	1g.g	u/ IC	100	4		46	190	20
	Trichlorofluoromethane	20	20.7	u/ IC	106	0		97	163	20
	1,1,2-Trichlorotrifluoroethane	20	20.7	u/ IC	106	1		71	139	20
	1,1-Dichloroethene	20	20.8	u/ IC	106	0		9g	136	20
	Acetone	100	110	u/ IC	110	0		61	181	20
	5 arbon disulfide	20	20.3	u/ IC	102	3		93	138	20
	Methyl tert-butyl Ether	20	21.g	u/ IC	110	6		72	139	20
	Methyl Acetate	20	22.7	u/ IC	116	0		41	148	20
	Methylene 5 hloride	20	21.4	u/ IC	108	4		97	138	20
	trans-1,2-Dichloroethene	20	20.g	u/ IC	106	0		72	132	20
	1,1-Dichloroethane	20	21.4	u/ IC	108	3		76	134	20
	5 yclohexane	20	21.g	u/ IC	110	1		97	132	20
	2-Butanone	100	120	u/ IC	120	g		96	169	20
	5 arbon Tetrachloride	20	20.8	u/ IC	106	1		71	136	20
	cis-1,2-Dichloroethene	20	21.9	u/ IC	108	6		76	130	20
	Bromochloromethane	20	1g.9	u/ IC	g8	1		71	139	20
	5 hloroform	20	21.3	u/ IC	109	1		76	136	20
	1,1,1-Trichloroethane	20	21	u/ IC	104	3		76	133	20
	Methylcyclohexane	20	20.7	u/ IC	106	0		71	124	20
	Benzene	20	21.6	u/ IC	107	1		74	124	20
	1,2-Dichloroethane	20	21.6	u/ IC	107	1		79	130	20
	Trichloroethene	20	21.1	u/ IC	109	2		73	127	20
	1,2-Dichloropropane	20	21.9	u/ IC	108	6		79	124	20
	Bromodichloromethane	20	21.2	u/ IC	109	3		78	127	20
	6-Methyl-2-Pentanone	100	120	u/ IC	120	0		71	160	20
	Toluene	20	22	u/ IC	110	0		76	124	20
	t-1,3-Dichloropropene	20	20.8	u/ IC	106	2		76	131	20
	cis-1,3-Dichloropropene	20	21	u/ IC	104	2		76	128	20
	1,1,2-Trichloroethane	20	21.6	u/ IC	107	1		74	12g	20
	2-Hexanone	100	120	u/ IC	120	g		92	143	20
	Dibromochloromethane	20	21.1	u/ IC	109	0		76	131	20
	1,2-Dibromoethane	20	21.8	u/ IC	10g	2		76	12g	20
	Tetrachloroethene	20	21.1	u/ IC	109	3		69	147	20
	5 hlorobenzene	20	21.6	u/ IC	107	3		79	123	20
	Ethyl Benzene	20	21.7	u/ IC	10g	2		74	129	20
	mIp-Xylenes	60	66.g	u/ IC	112	3		76	129	20
	o-Xylene	20	22.2	u/ IC	111	1		73	127	20
	Styrene	20	22.3	u/ IC	112	2		74	129	20
	Bromoform	20	21.8	u/ IC	10g	3		99	130	20
	Isopropylbenzene	20	21.g	u/ IC	110	2		70	127	20
	1,1,2,2-Tetrachloroethane	20	22	u/ IC	110	0		99	131	20
	N-propylbenzene	20	21.g	u/ IC	110	2		71	129	20
	1,3,4-Trimethylbenzene	20	22.3	u/ IC	112	2		71	127	20
	tert-Butylbenzene	20	22	u/ IC	110	1		99	12g	20
	1,2,6-Trimethylbenzene	20	22.7	u/ IC	116	3		9g	130	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8260C **Datafile :** VN031284.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VN0315WBSD01	Sec-butylbenzene	20	22.2	u/ IC	111	2		72	129	20
	p-Isopropyltoluene	20	22.9	u/ IC	113	6		71	124	20
	1,3-Dichlorobenzene	20	21.6	u/ IC	107	1		70	124	20
	1,6-Dichlorobenzene	20	21.1	u/ IC	109	2		71	126	20
	n-Butylbenzene	20	21.9	u/ IC	108	2		98	128	20
	1,2-Dichlorobenzene	20	21.4	u/ IC	108	3		71	129	20
	1,2-Dibromo-3-5 hloropropane	20	20.4	u/ IC	103	6		92	136	20
	1,2,6-Trichlorobenzene	20	21.3	u/ IC	109	2		92	12g	20
	Naphthalene	20	21.2	u/ IC	109	6		92	130	20
	1,2,3-Trichlorobenzene	20	21.6	u/ IC	107	6		48	130	20
	1,6-Dioxane	600	690	u/ IC	114	2		40	140	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VD0317SBL01

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1788

SAS No.: H1788

SDG NO.: H1788

Lab File ID: VD048948.D

Lab Sample ID: VD0317SBL01

Date Analyzed: 03/17/2016

Time Analyzed: 18:30

GC Column: RTX-VMS

ID: 0.18 (mm)

Heated Purge: (Y/N) Y

Instrument ID: MSVOA_D

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VD0317SBS01	VD0317SBS01	VD048949.D	03/17/2016
VD0317SBSD01	VD0317SBSD01	VD048950.D	03/17/2016
SB-5(9-10)	H1788-05	VD048951.D	03/17/2016

COMMENTS:

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VD0318SBL01

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1788

SAS No.: H1788

SDG NO.: H1788

Lab File ID: VD048961.D

Lab Sample ID: VD0318SBL01

Date Analyzed: 03/18/2016

Time Analyzed: 10:50

GC Column: RTX-VMS

ID: 0.18 (mm)

Heated Purge: (Y/N) Y

Instrument ID: MSVOA_D

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VD0318SBS01	VD0318SBS01	VD048972.D	03/18/2016
SB-5(9-10)RE	H1788-05RE	VD048976.D	03/18/2016
SB-4(7-8)	H1788-04	VD048977.D	03/18/2016
SB-3(7-8)	H1788-03	VD048978.D	03/18/2016
SB-2(8-9)	H1788-02	VD048979.D	03/18/2016
SB-1(8-9)	H1788-01	VD048980.D	03/18/2016

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0315WBL01

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1788

SAS No.: H1788

SDG NO.: H1788

Lab File ID: VN031278.D

Lab Sample ID: VN0315WBL01

Date Analyzed: 03/15/2016

Time Analyzed: 14:24

GC Column: RXI-624

ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
TW-1	H1788-06	VN031280.D	03/15/2016
TW-2	H1788-07	VN031281.D	03/15/2016
TW-4	H1788-08	VN031282.D	03/15/2016
TW-5	H1788-09	VN031283.D	03/15/2016
VN0315WBS01	VN0315WBS01	VN031284.D	03/15/2016
VN0315WBSD01	VN0315WBSD01	VN031285.D	03/15/2016

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH
Contract: AKRF02
Lab Code: CHEM
Case No.: H1788
SAS No.: H1788
SDG NO.: H1788
Lab File ID: VD048940.D
BFB Injection Date: 03/17/2016
Instrument ID: MSVOA_D
BFB Injection Time: 13:38
GC Column: RTX-VMS ID: 0.18 (mm)
Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.2
75	30.0 - 60.0% of mass 95	54.1
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0) 1
174	50.0 - 100.0% of mass 95	80.7
175	5.0 - 9.0% of mass 174	5.6 (7) 1
176	95.0 - 101.0% of mass 174	78.1 (96.8) 1
177	5.0 - 9.0% of mass 176	5.1 (6.5) 2

1-Value is % mass 174
2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VD048941.D	03/17/2016	14:11
VSTDICC010	VSTDICC010	VD048942.D	03/17/2016	14:38
VSTDICC020	VSTDICC020	VD048943.D	03/17/2016	15:04
VSTDICCC050	VSTDICCC050	VD048944.D	03/17/2016	15:31
VSTDICC100	VSTDICC100	VD048945.D	03/17/2016	15:58
VSTDICC150	VSTDICC150	VD048946.D	03/17/2016	16:25
VD0317SBL01	VD0317SBL01	VD048948.D	03/17/2016	18:30
VD0317SBS01	VD0317SBS01	VD048949.D	03/17/2016	18:57
VD0317SBSD01	VD0317SBSD01	VD048950.D	03/17/2016	19:23
SB-5(9-10)	H1788-05	VD048951.D	03/17/2016	19:50

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH
Contract: AKRF02
Lab Code: CHEM
Case No.: H1788
SAS No.: H1788
SDG NO.: H1788
Lab File ID: VD048959.D
BFB Injection Date: 03/18/2016
Instrument ID: MSVOA_D
BFB Injection Time: 09:17
GC Column: RTX-VMS ID: 0.18 (mm)
Heated Purge: Y/N Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.9
75	30.0 - 60.0% of mass 95	50.5
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.2 (0.2) 1
174	50.0 - 100.0% of mass 95	83.2
175	5.0 - 9.0% of mass 174	6 (7.2) 1
176	95.0 - 101.0% of mass 174	82.2 (98.8) 1
177	5.0 - 9.0% of mass 176	5.1 (6.3) 2

1-Value is % mass 174
2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VD048960.D	03/18/2016	09:51
VD0318SBL01	VD0318SBL01	VD048961.D	03/18/2016	10:50
VD0318SBS01	VD0318SBS01	VD048972.D	03/18/2016	16:40
SB-5(9-10)RE	H1788-05RE	VD048976.D	03/18/2016	18:28
SB-4(7-8)	H1788-04	VD048977.D	03/18/2016	18:54
SB-3(7-8)	H1788-03	VD048978.D	03/18/2016	19:21
SB-2(8-9)	H1788-02	VD048979.D	03/18/2016	19:48
SB-1(8-9)	H1788-01	VD048980.D	03/18/2016	20:15

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VN031270.D BFB Injection Date: 03/15/2016

Instrument ID: MSVOA_N BFB Injection Time: 09:40

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.8
75	30.0 - 60.0% of mass 95	49.1
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	0.6 (0.8) 1
174	50.0 - 100.0% of mass 95	77.3
175	5.0 - 9.0% of mass 174	5.3 (6.8) 1
176	95.0 - 101.0% of mass 174	75.8 (98) 1
177	5.0 - 9.0% of mass 176	4.9 (6.4) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC001	VSTDICC001	VN031271.D	03/15/2016	10:21
VSTDICC005	VSTDICC005	VN031272.D	03/15/2016	10:54
VSTDICC020	VSTDICC020	VN031273.D	03/15/2016	11:23
VSTDICCC050	VSTDICCC050	VN031274.D	03/15/2016	11:52
VSTDICC100	VSTDICC100	VN031275.D	03/15/2016	12:21
VSTDICC200	VSTDICC200	VN031276.D	03/15/2016	12:49
VN0315WBL01	VN0315WBL01	VN031278.D	03/15/2016	14:24
TW-1	H1788-06	VN031280.D	03/15/2016	16:45
TW-2	H1788-07	VN031281.D	03/15/2016	17:14
TW-4	H1788-08	VN031282.D	03/15/2016	17:43
TW-5	H1788-09	VN031283.D	03/15/2016	18:12
VN0315WBS01	VN0315WBS01	VN031284.D	03/15/2016	18:41
VN0315WBSD01	VN0315WBSD01	VN031285.D	03/15/2016	19:09

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VD048944.D Date Analyzed: 03/17/2016

Instrument ID: MSVOA_D Time Analyzed: 15:31

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	178153	6.34	277359	7.46	328147	11.59
UPPER LIMIT	356306	6.84	554718	7.96	656294	12.09
LOWER LIMIT	89076.5	5.84	138680	6.96	164074	11.09
EPA SAMPLE NO.						
SB-5(9-10)	313291	6.33	483452	7.46	523053	11.60
VD0317SBL01	221085	6.33	342129	7.46	373453	11.60
VD0317SBS01	240707	6.33	366613	7.46	407079	11.60
VD0317SBSD01	226707	6.34	354129	7.46	386201	11.59

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VD048944.D Date Analyzed: 03/17/2016

Instrument ID: MSVOA_D Time Analyzed: 15:31

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #	RT #				
12 HOUR STD	197502	13.94				
UPPER LIMIT	395004	14.44				
LOWER LIMIT	98751	13.44				
EPA SAMPLE NO.						
SB-5(9-10)	289419	13.93				
VD0317SBL01	206010	13.93				
VD0317SBS01	221362	13.93				
VD0317SBSD01	213124	13.94				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VD048960.D Date Analyzed: 03/18/2016

Instrument ID: MSVOA_D Time Analyzed: 09:51

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	164233	6.32	247420	7.45	288465	11.59
UPPER LIMIT	328466	6.82	494840	7.95	576930	12.09
LOWER LIMIT	82116.5	5.82	123710	6.95	144233	11.09
EPA SAMPLE NO.						
SB-1(8-9)	137300	6.32	211112	7.45	269520	11.59
SB-2(8-9)	143932	6.32	226571	7.45	285075	11.59
SB-3(7-8)	143443	6.32	219946	7.45	272905	11.59
SB-4(7-8)	133445	6.33	209523	7.45	258486	11.59
SB-5(9-10)RE	25802 *	6.33	43761 *	7.46	62327 *	11.59
VD0318SBL01	152957	6.33	232348	7.46	272533	11.59
VD0318SBS01	138338	6.33	212644	7.45	259636	11.59

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VD048960.D Date Analyzed: 03/18/2016

Instrument ID: MSVOA_D Time Analyzed: 09:51

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) Y

	IS4 AREA #	RT #				
12 HOUR STD	170612	13.93				
UPPER LIMIT	341224	14.43				
LOWER LIMIT	85306	13.43				
EPA SAMPLE NO.						
SB-1(8-9)	155559	13.93				
SB-2(8-9)	162376	13.92				
SB-3(7-8)	161598	13.93				
SB-4(7-8)	140936	13.93				
SB-5(9-10)RE	35855 *	13.93				
VD0318SBL01	160363	13.93				
VD0318SBS01	156397	13.93				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VN031274.D Date Analyzed: 03/15/2016

Instrument ID: MSVOA_N Time Analyzed: 11:52

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	883823	7.75	1452050	8.68	1263940	11.52
UPPER LIMIT	1767650	8.25	2904100	9.18	2527880	12.02
LOWER LIMIT	441912	7.25	726026	8.18	631971	11.02
EPA SAMPLE NO.						
TW-1	823588	7.75	1537017	8.68	1590940	11.52
TW-2	813231	7.75	1542521	8.68	1568226	11.52
TW-4	769013	7.75	1431576	8.68	1446561	11.52
TW-5	728691	7.75	1370967	8.68	1367215	11.52
VN0315WBL01	822135	7.75	1524757	8.68	1518113	11.51
VN0315WBS01	853619	7.75	1423442	8.68	1224832	11.51
VN0315WBSD01	821070	7.75	1375767	8.68	1180132	11.52

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: VN031274.D Date Analyzed: 03/15/2016

Instrument ID: MSVOA_N Time Analyzed: 11:52

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	552409	13.47				
UPPER LIMIT	1104820	13.97				
LOWER LIMIT	276205	12.97				
EPA SAMPLE NO.						
TW-1	602157	13.47				
TW-2	594239	13.47				
TW-4	541570	13.47				
TW-5	470667	13.47				
VN0315WBL01	531752	13.47				
VN0315WBS01	527405	13.47				
VN0315WBSD01	504962	13.47				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VD0317SBL01	SDG No.:	H1788
Lab Sample ID:	VD0317SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048948.D	1		03/17/16 18:30	VD031716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
75-71-8	Dichlorodifluoromethane	0.5	U	0.5	0.5	5	ug/Kg
74-87-3	Chloromethane	0.5	U	0.5	0.5	5	ug/Kg
75-01-4	Vinyl Chloride	0.5	U	0.5	0.5	5	ug/Kg
74-83-9	Bromomethane	1	U	1	1	5	ug/Kg
75-00-3	Chloroethane	0.5	U	0.5	0.5	5	ug/Kg
75-69-4	Trichlorofluoromethane	0.5	U	0.5	0.5	5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	0.5	U	0.5	0.5	5	ug/Kg
75-35-4	1,1-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
67-64-1	Acetone	2.5	U	2.5	2.5	25	ug/Kg
75-15-0	Carbon Disulfide	0.5	U	0.5	0.5	5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	0.5	U	0.5	0.5	5	ug/Kg
79-20-9	Methyl Acetate	1	U	1	1	5	ug/Kg
75-09-2	Methylene Chloride	0.5	U	0.5	0.5	5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
75-34-3	1,1-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
110-82-7	Cyclohexane	0.5	U	0.5	0.5	5	ug/Kg
78-93-3	2-Butanone	7.5	U	3.1	7.5	25	ug/Kg
56-23-5	Carbon Tetrachloride	0.5	U	0.5	0.5	5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	0.5	U	0.5	0.5	5	ug/Kg
74-97-5	Bromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
67-66-3	Chloroform	0.5	U	0.5	0.5	5	ug/Kg
71-55-6	1,1,1-Trichloroethane	0.5	U	0.5	0.5	5	ug/Kg
108-87-2	Methylcyclohexane	0.5	U	0.5	0.5	5	ug/Kg
71-43-2	Benzene	0.5	U	0.38	0.5	5	ug/Kg
107-06-2	1,2-Dichloroethane	0.5	U	0.5	0.5	5	ug/Kg
79-01-6	Trichloroethene	0.5	U	0.5	0.5	5	ug/Kg
78-87-5	1,2-Dichloropropane	0.5	U	0.26	0.5	5	ug/Kg
75-27-4	Bromodichloromethane	0.5	U	0.5	0.5	5	ug/Kg
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	2.5	25	ug/Kg
108-88-3	Toluene	0.5	U	0.5	0.5	5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	0.5	U	0.5	0.5	5	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VD0317SBL01	SDG No.:	H1788
Lab Sample ID:	VD0317SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048948.D	1		03/17/16 18:30	VD031716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-00-5	1,1,2-Trichloroethane	1	U	0.9	1	5	ug/Kg
591-78-6	2-Hexanone	2.5	U	2.5	2.5	25	ug/Kg
124-48-1	Dibromochloromethane	0.5	U	0.5	0.5	5	ug/Kg
106-93-4	1,2-Dibromoethane	0.5	U	0.5	0.5	5	ug/Kg
127-18-4	Tetrachloroethene	0.5	U	0.5	0.5	5	ug/Kg
108-90-7	Chlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
100-41-4	Ethyl Benzene	0.5	U	0.5	0.5	5	ug/Kg
179601-23-1	m/p-Xylenes	1	U	0.72	1	10	ug/Kg
95-47-6	o-Xylene	0.5	U	0.5	0.5	5	ug/Kg
100-42-5	Styrene	0.5	U	0.45	0.5	5	ug/Kg
75-25-2	Bromoform	1.5	U	0.74	1.5	5	ug/Kg
98-82-8	Isopropylbenzene	0.5	U	0.48	0.5	5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U	0.46	0.5	5	ug/Kg
103-65-1	n-propylbenzene	0.5	U	0.36	0.5	5	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	0.5	U	0.45	0.5	5	ug/Kg
98-06-6	tert-Butylbenzene	0.5	U	0.5	0.5	5	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	0.5	U	0.5	0.5	5	ug/Kg
135-98-8	sec-Butylbenzene	0.5	U	0.5	0.5	5	ug/Kg
99-87-6	p-Isopropyltoluene	0.5	U	0.29	0.5	5	ug/Kg
541-73-1	1,3-Dichlorobenzene	0.5	U	0.37	0.5	5	ug/Kg
106-46-7	1,4-Dichlorobenzene	0.5	U	0.41	0.5	5	ug/Kg
104-51-8	n-Butylbenzene	0.5	U	0.46	0.5	5	ug/Kg
95-50-1	1,2-Dichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5	U	0.87	5	5	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	0.5	U	0.5	0.5	5	ug/Kg
91-20-3	Naphthalene	0.5	U	0.45	0.5	5	ug/Kg
87-61-6	1,2,3-Trichlorobenzene	1	U	0.5	1	5	ug/Kg
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	41.2		56 - 120		82%	SPK: 50
1868-53-7	Dibromofluoromethane	45.6		57 - 135		91%	SPK: 50
2037-26-5	Toluene-d8	47.8		67 - 123		96%	SPK: 50
460-00-4	4-Bromofluorobenzene	42.6		33 - 141		85%	SPK: 50

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VD0317SBL01	SDG No.:	H1788
Lab Sample ID:	VD0317SBL01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	0
Sample Wt/Vol:	5 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD048948.D	1		03/17/16 18:30	VD031716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	221085	6.33				
540-36-3	1,4-Difluorobenzene	342129	7.46				
3114-55-4	Chlorobenzene-d5	373453	11.6				
3855-82-1	1,4-Dichlorobenzene-d4	206010	13.93				
TENTATIVE IDENTIFIED COMPOUNDS							
003557-49-1	7H-Dibenzo[b,g]carbazole, 7-methyl	5.1	J			12.97	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHI 7S8 LT1	SDG No.:	2 1377
Lab Sample ID:	VDTHI 7S8 LT1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU7961.D	1		TH/17/16 1T:zT	VDTHI 716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
3z-31-7	Dichlorodifluoromethane	T.z	5	T.z	T.z	z	ug/Kg
3U-73-H	Chloromethane	T.z	5	T.z	T.z	z	ug/Kg
3z-T1-U	Vinyl Chloride	T.z	5	T.z	T.z	z	ug/Kg
3U-7H-9	8 romomethane	1	5	1	1	z	ug/Kg
3z-TT-H	Chloroethane	T.z	5	T.z	T.z	z	ug/Kg
3z-69-U	Orichlorofluoromethane	T.z	5	T.z	T.z	z	ug/Kg
36-1H-1	1,1,0-Orichlorotrifluoroethane	T.z	5	T.z	T.z	z	ug/Kg
3z-Hz-U	1,1-Dichloroethene	T.z	5	T.z	T.z	z	ug/Kg
63-6U-1	Acetone	0.z	5	0.z	0.z	0z	ug/Kg
3z-1z-T	Carbon Disulfide	T.z	5	T.z	T.z	z	ug/Kg
16HU-TU-U	Methyl tert-butyl Ether	T.z	5	T.z	T.z	z	ug/Kg
39-0T-9	Methyl Acetate	1	5	1	1	z	ug/Kg
3z-T9-0	Methylene Chloride	T.z	5	T.z	T.z	z	ug/Kg
1z6-6T-z	trans-1,0-Dichloroethene	T.z	5	T.z	T.z	z	ug/Kg
3z-HU-H	1,1-Dichloroethane	T.z	5	T.z	T.z	z	ug/Kg
11T-70-3	Cyclohexane	T.z	5	T.z	T.z	z	ug/Kg
37-9H-H	0-8 utanone	3.z	5	H1	3.z	0z	ug/Kg
z6-0H-z	Carbon Qetrachloride	T.z	5	T.z	T.z	z	ug/Kg
1z6-z9-0	cis-1,0-Dichloroethene	T.z	5	T.z	T.z	z	ug/Kg
3U-93-z	8 romochloromethane	T.z	5	T.z	T.z	z	ug/Kg
63-66-H	Chloroform	T.z	5	T.z	T.z	z	ug/Kg
31-zz-6	1,1,1-Orichloroethane	T.z	5	T.z	T.z	z	ug/Kg
1T7-73-0	Methylcyclohexane	T.z	5	T.z	T.z	z	ug/Kg
31-UH-0	8 enBene	T.z	5	T.H7	T.z	z	ug/Kg
1T3-T6-0	1,0-Dichloroethane	T.z	5	T.z	T.z	z	ug/Kg
39-T1-6	Orichloroethene	T.z	5	T.z	T.z	z	ug/Kg
37-73-z	1,0-Dichloropropane	T.z	5	T.06	T.z	z	ug/Kg
3z-03-U	8 romodichloromethane	T.z	5	T.z	T.z	z	ug/Kg
1T7-1T-1	U-Methyl-0-Pentanone	0.z	5	0.z	0.z	0z	ug/Kg
1T7-77-H	Qoluene	T.z	5	T.z	T.z	z	ug/Kg
1TT61-T0-6	t-1,H-Dichloropropene	T.z	5	T.z	T.z	z	ug/Kg
1TT61-T1-z	cis-1,H-Dichloropropene	T.z	5	T.z	T.z	z	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl 7S8 LT1	SDG No.:	2 1377
Lab Sample ID:	VDTHl 7S8 LT1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU7961.D	1		TH/17/16 1T:zT	VDTHl 716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
39-TT-z	1,1,0-Orichloroethane	1	5	T.9	1	z	ug/Kg
z91-37-6	0-2 exanone	0.z	5	0.z	0.z	0z	ug/Kg
10U-U7-1	Dibromochloromethane	T.z	5	T.z	T.z	z	ug/Kg
1T6-9H-U	1,0-Dibromoethane	T.z	5	T.z	T.z	z	ug/Kg
103-17-U	Qetrachloroethene	T.z	5	T.z	T.z	z	ug/Kg
1T7-9T-3	ChlorobenBene	T.z	5	T.z	T.z	z	ug/Kg
1TT-Ul-U	Ethyl 8 enBene	T.z	5	T.z	T.z	z	ug/Kg
1396T1-0H-1	m/p-Xylenes	1	5	T.30	1	1T	ug/Kg
9z-U3-6	o-Xylene	T.z	5	T.z	T.z	z	ug/Kg
1TT-U0-z	Styrene	T.z	5	T.Uz	T.z	z	ug/Kg
3z-0z-0	8 romoform	1.z	5	T.3U	1.z	z	ug/Kg
97-70-7	IsopropylbenBene	T.z	5	T.U7	T.z	z	ug/Kg
39-HU-z	1,1,0,0-Qetrachloroethane	T.z	5	T.U6	T.z	z	ug/Kg
1TH-6z-1	n-propylbenBene	T.z	5	T.H6	T.z	z	ug/Kg
1T7-63-7	1,H,z-Orimethylbenbene	T.z	5	T.Uz	T.z	z	ug/Kg
97-T6-6	tert-8 utylbenBene	T.z	5	T.z	T.z	z	ug/Kg
9z-6H-6	1,0,U-Orimethylbenbene	T.z	5	T.z	T.z	z	ug/Kg
1Hz-97-7	sec-8 utylbenBene	T.z	5	T.z	T.z	z	ug/Kg
99-73-6	p-Isopropyltoluene	T.z	5	T.09	T.z	z	ug/Kg
zUl-3H-1	1,H-DichlorobenBene	T.z	5	T.H3	T.z	z	ug/Kg
1T6-U6-3	1,U-DichlorobenBene	T.z	5	T.Ul	T.z	z	ug/Kg
1TU-z1-7	n-8 utylbenBene	T.z	5	T.U6	T.z	z	ug/Kg
9z-zT-1	1,0-DichlorobenBene	T.z	5	T.z	T.z	z	ug/Kg
96-10-7	1,0-Dibromo-H-Chloropropane	z	5	T.73	z	z	ug/Kg
10T-70-1	1,0,U-OrichlorobenBene	T.z	5	T.z	T.z	z	ug/Kg
91-0T-H	Naphthalene	T.z	5	T.Uz	T.z	z	ug/Kg
73-61-6	1,0,H-OrichlorobenBene	1	5	T.z	1	z	ug/Kg
10H-91-1	1,U-Dioxane	1TT	5	1TT	1TT	1TT	ug/Kg
SURROGATES							
13T6T-T3-T	1,0-Dichloroethane-dU	z9.6		z6 - 10T		119%	SPK: zT
1767-zH-3	Dibromofluoromethane	61.9		z3 - 1Hz		10U%	SPK: zT
0TH3-06-z	Coluene-d7	z6.7		63 - 10H		11U%	SPK: zT
U6T-TT-U	U-8 romofluorobenBene	z9.9		HH- 1Ul		10T%	SPK: zT

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl 7S8 LT1	SDG No.:	2 1377
Lab Sample ID:	VDTHl 7S8 LT1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU7961.D	1		TH/17/16 1T:zT	VDTHl 716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H6H-30-U	PentafluorobenBene	1z09z3	6.HH				
zUT-H6-H	1,U-DifluorobenBene	0H0HU7	3.U6				
Hl1U-zz-U	ChlorobenBene-dz	030zHH	11.z9				
H7zz-70-1	1,U-DichlorobenBene-dU	16TH6H	1H9H				

5 J Not Detected
L4 Q J Limit of Quantitation
MDL J Method Detection Limit
L4 D J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In2 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 LT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI 7W8 LT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 640.D	1		TH/17/12 1z:6z	VNTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
47-41-0	Dichlorodifluoromethane	T.7	5	T.6	T.7	7	ug/L
4z-04-H	Chloromethane	T.7	5	T.6	T.7	7	ug/L
47-T1-z	Vinyl Chloride	T.7	5	T.Hz	T.7	7	ug/L
4z-0H-9	8 romomethane	T.7	5	T.6	T.7	7	ug/L
47-TT-H	Chloroethane	T.7	5	T.6	T.7	7	ug/L
47-29-z	Orichlorofluoromethane	T.7	5	T.H7	T.7	7	ug/L
42-1H-1	1,1,6-Orichlorotrifluoroethane	T.7	5	T.z7	T.7	7	ug/L
47-H7-z	1,1-Dichloroethene	T.7	5	T.z4	T.7	7	ug/L
24-2z-1	Acetone	6.7	5	T.7	6.7	67	ug/L
47-17-T	Carbon Disulfide	T.7	5	T.6	T.7	7	ug/L
12Hz-Tz-z	Methyl tert-butyl Ether	T.7	5	T.H7	T.7	7	ug/L
49-6T-9	Methyl Acetate	6	5	T.6	6	7	ug/L
47-T9-6	Methylene Chloride	T.7	5	T.z1	T.7	7	ug/L
172-2T-7	trans-1,6-Dichloroethene	T.7	5	T.z1	T.7	7	ug/L
47-Hz-H	1,1-Dichloroethane	T.7	5	T.H2	T.7	7	ug/L
11T-06-4	Cyclohexane	T.7	5	T.6	T.7	7	ug/L
40-9H-H	6-8 utanone	6.7	5	1.H	6.7	67	ug/L
72-6H-7	Carbon Qetrachloride	T.7	5	T.6	T.7	7	ug/L
172-79-6	cis-1,6-Dichloroethene	T.7	5	T.H7	T.7	7	ug/L
4z-94-7	8 romochloromethane	T.7	5	T.6	T.7	7	ug/L
24-22-H	Chloroform	T.7	5	T.Hz	T.7	7	ug/L
41-77-2	1,1,1-Orichloroethane	T.47	5	T.z	T.47	7	ug/L
1T0-04-6	Methylcyclohexane	T.7	5	T.6	T.7	7	ug/L
41-zH-6	8 enBene	T.7	5	T.H6	T.7	7	ug/L
1T4-T2-6	1,6-Dichloroethane	T.47	5	T.z0	T.47	7	ug/L
49-T1-2	Orichloroethene	T.7	5	T.60	T.7	7	ug/L
40-04-7	1,6-Dichloropropane	T.7	5	T.z2	T.7	7	ug/L
47-64-z	8 romodichloromethane	T.7	5	T.H2	T.7	7	ug/L
1T0-1T-1	z-Methyl-6-Pentanone	6.7	5	6.1	6.7	67	ug/L
1T0-00-H	Qoluene	T.7	5	T.H4	T.7	7	ug/L
1TT21-T6-2	t-1,H-Dichloropropene	T.7	5	T.69	T.7	7	ug/L
1TT21-T1-7	cis-1,H-Dichloropropene	T.7	5	T.H1	T.7	7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI7W8LT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI7W8LT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VNTHI640.D	1		TH/17/12 1z:6z	VNTHI712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
49-TT-7	1,1,6-Orichloroethane	T.7	5	T.H0	T.7	7	ug/L
791-40-2	6-3exanone	H0	5	1.9	H0	67	ug/L
16z-z0-1	Dibromochloromethane	T.7	5	T.6	T.7	7	ug/L
1T2-9H-z	1,6-Dibromoethane	T.7	5	T.z1	T.7	7	ug/L
164-10-z	Qetrachloroethene	T.7	5	T.64	T.7	7	ug/L
1T0-9T-4	ChlorobenBene	T.7	5	T.z9	T.7	7	ug/L
1TT-z1-z	Ethyl 8enBene	T.7	5	T.6	T.7	7	ug/L
1492T1-6H-1	m/p-Xylenes	1	5	T.97	1	1T	ug/L
97-z4-2	o-Xylene	T.7	5	T.zH	T.7	7	ug/L
1TT-z6-7	Styrene	T.7	5	T.H2	T.7	7	ug/L
47-67-6	8romoform	T.7	5	T.z4	T.7	7	ug/L
90-06-0	IsopropylbenBene	T.7	5	T.z7	T.7	7	ug/L
49-Hz-7	1,1,6,6-Qetrachloroethane	T.7	5	T.H1	T.7	7	ug/L
1TH-27-1	n-propylbenBene	T.7	5	T.z7	T.7	7	ug/L
1T0-24-0	1,H,7-OrimethylbenBene	T.7	5	T.z2	T.7	7	ug/L
90-T2-2	tert-8utylbenBene	T.7	5	T.zz	T.7	7	ug/L
97-2H-2	1,6,z-OrimethylbenBene	T.7	5	T.H0	T.7	7	ug/L
1H7-90-0	sec-8utylbenBene	T.7	5	T.z2	T.7	7	ug/L
99-04-2	p-Isopropyltoluene	T.7	5	T.zH	T.7	7	ug/L
7z1-4H-1	1,H-DichlorobenBene	T.7	5	T.zH	T.7	7	ug/L
1T2-z2-4	1,z-DichlorobenBene	T.7	5	T.H6	T.7	7	ug/L
1Tz-71-0	n-8utylbenBene	T.7	5	T.z1	T.7	7	ug/L
97-7T-1	1,6-DichlorobenBene	T.7	5	T.z7	T.7	7	ug/L
92-16-0	1,6-Dibromo-H-Chloropropane	6	5	T.z2	6	7	ug/L
16T-06-1	1,6,z-OrichlorobenBene	T.7	5	T.6	T.7	7	ug/L
91-6T-H	Naphthalene	T.7	5	T.6	T.7	7	ug/L
04-21-2	1,6,H-OrichlorobenBene	T.7	5	T.6	T.7	7	ug/L
16H-91-1	1,z-Dioxane	1TT	5	1TT	1TT	1TT	ug/L
SURROGATES							
14T2T-T4-T	1,6-Dichloroethane-dz	7z.z		21 - 1z1		1T9%	SPK: 7T
1020-7H-4	Dibromofluoromethane	71		29 - 1HH		1T6%	SPK: 7T
6TH4-62-7	Qoluene-d0	7z.z		27 - 162		1T9%	SPK: 7T
z2T-TT-z	z-8romofluorobenBene	72.z		70 - 1H7		11H%	SPK: 7T

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI7W8LT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI7W8LT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VNTHI640.D	1		TH/17/12 1z:6z	VNTHI712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H2H-46-z	PentafluorobenBene	0661H7	4.47				
7zT-H2-H	1,z-DifluorobenBene	176z42T	0.20				
HI1z-77-z	ChlorobenBene-d7	171011T	11.71				
HD77-06-1	1,z-DichlorobenBene-dz	7HI476	1Hz4				

5 J Not Detected
LUQ J Limit of Quantitation
MDL J Method Detection Limit
LUD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

kJ Estimated Value
8 J Analyte Found in Associated Method 8lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In3ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHI 7S8 ST1	SDG No.:	3 1700
Lab Sample ID:	VDTHI 7S8 ST1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU09U9.D	1		THI17/12 10:z7	VDTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
7z-71-0	Dichlorodifluoromethane	1z.0		T.z	T.z	z	ug/Kg
7U-07-H	Chloromethane	19.7		T.z	T.z	z	ug/Kg
7z-T1-U	Vinyl Chloride	17.0		T.z	T.z	z	ug/Kg
7U-0H-9	8 romomethane	19.6		1	1	z	ug/Kg
7z-TT-H	Chloroethane	17.U		T.z	T.z	z	ug/Kg
7z-29-U	Orichlorofluoromethane	12		T.z	T.z	z	ug/Kg
72-1H-1	1,1,6-Orichlorotrifluoroethane	10.2		T.z	T.z	z	ug/Kg
7z-Hz-U	1,1-Dichloroethene	19.H		T.z	T.z	z	ug/Kg
27-2U-1	Acetone	96.U		6.z	6.z	6z	ug/Kg
7z-1z-T	Carbon Disulfide	10		T.z	T.z	z	ug/Kg
12HU-TU-U	Methyl tert-butyl Ether	10.6		T.z	T.z	z	ug/Kg
79-6T-9	Methyl Acetate	61.H		1	1	z	ug/Kg
7z-T9-6	Methylene Chloride	6T.H		T.z	T.z	z	ug/Kg
1z2-2T-z	trans-1,6-Dichloroethene	19.9		T.z	T.z	z	ug/Kg
7z-HU-H	1,1-Dichloroethane	19.6		T.z	T.z	z	ug/Kg
11T-06-7	Cyclohexane	10.6		T.z	T.z	z	ug/Kg
70-9H-H	6-8 utanone	1TT		H1	7.z	6z	ug/Kg
z2-6H-z	Carbon Qetrachloride	12.2		T.z	T.z	z	ug/Kg
1z2-z9-6	cis-1,6-Dichloroethene	6T.U		T.z	T.z	z	ug/Kg
7U-97-z	8 romochloromethane	61		T.z	T.z	z	ug/Kg
27-22-H	Chloroform	17.0		T.z	T.z	z	ug/Kg
71-zz-2	1,1,1-Orichloroethane	17.1		T.z	T.z	z	ug/Kg
1T0-07-6	Methylcyclohexane	19.1		T.z	T.z	z	ug/Kg
71-UH-6	8 enBene	6T		T.H0	T.z	z	ug/Kg
1T7-T2-6	1,6-Dichloroethane	17.z		T.z	T.z	z	ug/Kg
79-T1-2	Orichloroethene	19		T.z	T.z	z	ug/Kg
70-07-z	1,6-Dichloropropane	19.z		T.62	T.z	z	ug/Kg
7z-67-U	8 romodichloromethane	10		T.z	T.z	z	ug/Kg
1T0-1T-1	U-Methyl-6-Pentanone	1TT		6.z	6.z	6z	ug/Kg
1T0-00-H	Qoluene	19.U		T.z	T.z	z	ug/Kg
1TT21-T6-2	t-1,H-Dichloropropene	10.1		T.z	T.z	z	ug/Kg
1TT21-T1-z	cis-1,H-Dichloropropene	10.6		T.z	T.z	z	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl 7S8 ST1	SDG No.:	3 1700
Lab Sample ID:	VDTHl 7S8 ST1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Oest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU09U9.D	1		TH/17/12 10:z7	VDTHl 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-TT-z	1,1,6-Orichloroethane	10.2		T.9	1	z	ug/Kg
z91-70-2	6-3 exanone	1TT		6.z	6.z	6z	ug/Kg
16U-U0-1	Dibromochloromethane	17.2		T.z	T.z	z	ug/Kg
1T2-9H-U	1,6-Dibromoethane	10.U		T.z	T.z	z	ug/Kg
167-10-U	Oetrachloroethene	19.U		T.z	T.z	z	ug/Kg
1T0-9T-7	ChlorobenBene	19.6		T.z	T.z	z	ug/Kg
1TT-Ul-U	Ethyl 8 enBene	19.7		T.z	T.z	z	ug/Kg
1792T1-6H-1	m/p-Xylenes	H0.9		T.76	1	1T	ug/Kg
9z-U7-2	o-Xylene	19.6		T.z	T.z	z	ug/Kg
1TT-U6-z	Styrene	19.z		T.Uz	T.z	z	ug/Kg
7z-6z-6	8 romoform	10.6		T.7U	1.z	z	ug/Kg
90-06-0	IsopropylbenBene	6T.9		T.U0	T.z	z	ug/Kg
79-HU-z	1,1,6,6-Oetrachloroethane	61.6		T.U2	T.z	z	ug/Kg
1TH-2z-1	n-propylbenBene	6T.U		T.H2	T.z	z	ug/Kg
1T0-27-0	1,H,z-OrimethylbenBene	6T		T.Uz	T.z	z	ug/Kg
90-T2-2	tert-8 utylbenBene	19.0		T.z	T.z	z	ug/Kg
9z-2H-2	1,6,U-OrimethylbenBene	6T		T.z	T.z	z	ug/Kg
1Hz-90-0	sec-8 utylbenBene	6T.1		T.z	T.z	z	ug/Kg
99-07-2	p-Isopropyltoluene	6T.6		T.69	T.z	z	ug/Kg
zUl-7H-1	1,H-DichlorobenBene	19.7		T.H7	T.z	z	ug/Kg
1T2-U2-7	1,U-DichlorobenBene	19.0		T.Ul	T.z	z	ug/Kg
1TU-z1-0	n-8 utylbenBene	6T.U		T.U2	T.z	z	ug/Kg
9z-zT-1	1,6-DichlorobenBene	6T		T.z	T.z	z	ug/Kg
92-16-0	1,6-Dibromo-H-Chloropropane	19.1		T.07	z	z	ug/Kg
16T-06-1	1,6,U-OrichlorobenBene	19.H		T.z	T.z	z	ug/Kg
91-6T-H	Naphthalene	19.7		T.Uz	T.z	z	ug/Kg
07-21-2	1,6,H-OrichlorobenBene	19.1		T.z	1	z	ug/Kg
16H-91-1	1,U-Dioxane	U6T		1TT	1TT	1TT	ug/Kg
SURROGATES							
17T2T-T7-T	1,6-Dichloroethane-dU	H7.z		z2 - 16T		7z%	SPK: zT
1020-zH-7	Dibromofluoromethane	Ul.z		z7 - 1Hz		0H%	SPK: zT
6TH7-62-z	Coluene-d0	UH		27 - 16H		02%	SPK: zT
U2T-TT-U	U-8 romofluorobenBene	H0.z		HH- 1Ul		77%	SPK: zT

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTH17S8 ST1	SDG No.:	3 1700
Lab Sample ID:	VDTH17S8 ST1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU09U9.D	1		TH/17/12 10:z7	VDTH1712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H2H-76-U	PentafluorobenBene	6UT7T7	2.HH				
zUT-H2-H	1,U-DifluorobenBene	H2221H	7.U2				
H11U-zz-U	ChlorobenBene-dz	UT7T79	11.2				
H0zz-06-1	1,U-DichlorobenBene-dU	661H26	1H9H				

5 J Not Detected
L4 Q J Limit of Quantitation
MDL J Method Detection Limit
L4 D J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In3 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl 7S8 ST1	SDG No.:	2 1377
Lab Sample ID:	VDTHl 7S8 ST1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	5 Units: g	Final Vol:	5TTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTz7930.D	1		TH/17/16 16:zT	VDTHl 716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
35-31-7	Dichlorodifluoromethane	0T.z		T.5	T.5	5	ug/Kg
3z-73-H	Chloromethane	17.3		T.5	T.5	5	ug/Kg
35-T1-z	Vinyl Chloride	19.9		T.5	T.5	5	ug/Kg
3z-7H-9	8 romomethane	0T.H		1	1	5	ug/Kg
35-TT-H	Chloroethane	0T.1		T.5	T.5	5	ug/Kg
35-69-z	Orichlorofluoromethane	00.3		T.5	T.5	5	ug/Kg
36-1H-1	1,1,0-Orichlorotrifluoroethane	01.0		T.5	T.5	5	ug/Kg
35-H5-z	1,1-Dichloroethene	19.7		T.5	T.5	5	ug/Kg
63-6z-1	Acetone	1TT		0.5	0.5	05	ug/Kg
35-15-T	Carbon Disulfide	13		T.5	T.5	5	ug/Kg
16Hz-Tz-z	Methyl tert-butyl Ether	0T.z		T.5	T.5	5	ug/Kg
39-0T-9	Methyl Acetate	0T.5		1	1	5	ug/Kg
35-T9-0	Methylene Chloride	19.9		T.5	T.5	5	ug/Kg
156-6T-5	trans-1,0-Dichloroethene	17.6		T.5	T.5	5	ug/Kg
35-Hz-H	1,1-Dichloroethane	0T.9		T.5	T.5	5	ug/Kg
11T-70-3	Cyclohexane	17.1		T.5	T.5	5	ug/Kg
37-9H-H	0-8 utanone	1TT		H1	3.5	05	ug/Kg
56-0H-5	Carbon Oetrachloride	00.z		T.5	T.5	5	ug/Kg
156-59-0	cis-1,0-Dichloroethene	19.H		T.5	T.5	5	ug/Kg
3z-93-5	8 romochloromethane	0Hz		T.5	T.5	5	ug/Kg
63-66-H	Chloroform	01.H		T.5	T.5	5	ug/Kg
31-55-6	1,1,1-Orichloroethane	01.z		T.5	T.5	5	ug/Kg
1T7-73-0	Methylcyclohexane	19.9		T.5	T.5	5	ug/Kg
31-zH-0	8 enBene	19.H		T.H7	T.5	5	ug/Kg
1T3-T6-0	1,0-Dichloroethane	00.9		T.5	T.5	5	ug/Kg
39-T1-6	Orichloroethene	0T.1		T.5	T.5	5	ug/Kg
37-73-5	1,0-Dichloropropane	19.3		T.06	T.5	5	ug/Kg
35-03-z	8 romodichloromethane	01.3		T.5	T.5	5	ug/Kg
1T7-1T-1	z-Methyl-0-Pentanone	11T		0.5	0.5	05	ug/Kg
1T7-77-H	Ooluene	0T.1		T.5	T.5	5	ug/Kg
1TT61-T0-6	t-1,H-Dichloropropene	01.0		T.5	T.5	5	ug/Kg
1TT61-T1-5	cis-1,H-Dichloropropene	0T.5		T.5	T.5	5	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl7S8 ST1	SDG No.:	2 1377
Lab Sample ID:	VDTHl7S8 ST1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	5 Units: g	Final Vol:	5TTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VDTz7930.D	1		TH/17/16 16:zT	VDTHl716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
39-TT-5	1,1,0-Orichloroethane	0T.H		T.9	1	5	ug/Kg
591-37-6	0-2exanone	11T		0.5	0.5	05	ug/Kg
10z-z7-1	Dibromochloromethane	01.9		T.5	T.5	5	ug/Kg
1T6-9H-z	1,0-Dibromoethane	01.H		T.5	T.5	5	ug/Kg
103-17-z	Qetrachloroethene	19		T.5	T.5	5	ug/Kg
1T7-9T-3	ChlorobenBene	19.9		T.5	T.5	5	ug/Kg
1TT-z1-z	Ethyl 8enBene	0T.z		T.5	T.5	5	ug/Kg
1396T1-0H-1	m/p-Xylenes	zT.0		T.30	1	1T	ug/Kg
95-z3-6	o-Xylene	0T.0		T.5	T.5	5	ug/Kg
1TT-z0-5	Styrene	0T.9		T.z5	T.5	5	ug/Kg
35-05-0	8romoform	19.H		T.3z	1.5	5	ug/Kg
97-70-7	IsopropylbenBene	0T.3		T.z7	T.5	5	ug/Kg
39-Hz-5	1,1,0,0-Qetrachloroethane	0T.0		T.z6	T.5	5	ug/Kg
1TH-65-1	n-propylbenBene	0T.6		T.H6	T.5	5	ug/Kg
1T7-63-7	1,H,5-OrimethylbenBene	0T.3		T.z5	T.5	5	ug/Kg
97-T6-6	tert-8utylbenBene	01.7		T.5	T.5	5	ug/Kg
95-6H-6	1,0,z-OrimethylbenBene	01.H		T.5	T.5	5	ug/Kg
1H5-97-7	sec-8utylbenBene	0T.z		T.5	T.5	5	ug/Kg
99-73-6	p-Isopropyltoluene	01		T.09	T.5	5	ug/Kg
5z1-3H-1	1,H-DichlorobenBene	0T		T.H3	T.5	5	ug/Kg
1T6-z6-3	1,z-DichlorobenBene	0T.5		T.z1	T.5	5	ug/Kg
1Tz-51-7	n-8utylbenBene	01		T.z6	T.5	5	ug/Kg
95-5T-1	1,0-DichlorobenBene	01.1		T.5	T.5	5	ug/Kg
96-10-7	1,0-Dibromo-H-Chloropropane	19.z		T.73	5	5	ug/Kg
10T-70-1	1,0,z-OrichlorobenBene	0T.9		T.5	T.5	5	ug/Kg
91-0T-H	Naphthalene	0T.H		T.z5	T.5	5	ug/Kg
73-61-6	1,0,H-OrichlorobenBene	01.6		T.5	1	5	ug/Kg
10H-91-1	1,z-Dioxane	z0T		1TT	1TT	1TT	ug/Kg
SURROGATES							
13T6T-T3-T	1,0-Dichloroethane-dz	51.H		56 - 10T		1TH%	SPK: 5T
1767-5H-3	Dibromofluoromethane	z7.6		53 - 1H5		93%	SPK: 5T
0TH3-06-5	Qoluene-d7	z5.9		63 - 10H		90%	SPK: 5T
z6T-TT-z	z-8romofluorobenBene	z7.0		HH- 1z1		96%	SPK: 5T

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTH17S8 ST1	SDG No.:	2 1377
Lab Sample ID:	VDTH17S8 ST1	Matrix:	S4 IL
Analytical Method:	SW706T	% Moisture:	T
Sample Wt/Vol:	5 Units: g	Final Vol:	5TTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.17	Level :	L4 W

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VDTz7930.D	1		TH/17/16 16:zT	VDTH1716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H6H-30-z	PentafluorobenBene	1H7HH7	6.HH				
5zT-H6-H	1,z-DifluorobenBene	0106zz	3.z5				
H11z-55-z	ChlorobenBene-d5	0596H6	11.59				
H755-70-1	1,z-DichlorobenBene-dz	156H93	1H9H				

U J Not Detected
L4 Q J Limit of Quantitation
MDL J Method Detection Limit
L4 D J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In2ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 ST1	SDG No.:	3 1400
Lab Sample ID:	VNTHI 7W8 ST1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 60z.D	1		TH/17/12 10:z1	VNTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
47-41-0	Dichlorodifluoromethane	6T.z		T.6	T.7	7	ug/L
4z-04-H	Chloromethane	66.7		T.6	T.7	7	ug/L
47-T1-z	Vinyl Chloride	6T		T.Hz	T.7	7	ug/L
4z-0H-9	8 romomethane	14.7		T.6	T.7	7	ug/L
47-TT-H	Chloroethane	10.9		T.6	T.7	7	ug/L
47-29-z	Orichlorofluoromethane	6T.0		T.H7	T.7	7	ug/L
42-1H-1	1,1,6-Orichlorotrifluoroethane	6T.7		T.z7	T.7	7	ug/L
47-H7-z	1,1-Dichloroethene	6T.9		T.z4	T.7	7	ug/L
24-2z-1	Acetone	11T		T.7	6.7	67	ug/L
47-17-T	Carbon Disulfide	19.4		T.6	T.7	7	ug/L
12Hz-Tz-z	Methyl tert-butyl Ether	61.6		T.H7	T.7	7	ug/L
49-6T-9	Methyl Acetate	66.4		T.6	6	7	ug/L
47-T9-6	Methylene Chloride	6T.2		T.z1	T.7	7	ug/L
172-2T-7	trans-1,6-Dichloroethene	6T.9		T.z1	T.7	7	ug/L
47-Hz-H	1,1-Dichloroethane	61		T.H2	T.7	7	ug/L
11T-06-4	Cyclohexane	61.4		T.6	T.7	7	ug/L
40-9H-H	6-8 utanone	11T		1.H	6.7	67	ug/L
72-6H-7	Carbon Oetrachloride	6T.2		T.6	T.7	7	ug/L
172-79-6	cis-1,6-Dichloroethene	6T.0		T.H7	T.7	7	ug/L
4z-94-7	8 romochloromethane	19.H		T.6	T.7	7	ug/L
24-22-H	Chloroform	61		T.Hz	T.7	7	ug/L
41-77-2	1,1,1-Orichloroethane	6T.z		T.z	T.47	7	ug/L
1T0-04-6	Methylcyclohexane	6T.0		T.6	T.7	7	ug/L
41-zH-6	8 enBene	61.1		T.H6	T.7	7	ug/L
1T4-T2-6	1,6-Dichloroethane	61.1		T.z0	T.47	7	ug/L
49-T1-2	Orichloroethene	6T.9		T.60	T.7	7	ug/L
40-04-7	1,6-Dichloropropane	6T.4		T.z2	T.7	7	ug/L
47-64-z	8 romodichloromethane	6T.2		T.H2	T.7	7	ug/L
1T0-1T-1	z-Methyl-6-Pentanone	16T		6.1	6.7	67	ug/L
1T0-00-H	Ooluene	66		T.H4	T.7	7	ug/L
1TT21-T6-2	t-1,H-Dichloropropene	6T.H		T.69	T.7	7	ug/L
1TT21-T1-7	cis-1,H-Dichloropropene	6T.2		T.H1	T.7	7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHl7W8ST1	SDG No.:	3 1400
Lab Sample ID:	VNTHl7W8ST1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VNTHl60z.D	1		TH/17/12 10:z1	VNTHl712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
49-TT-7	1,1,6-Orichloroethane	61.2		T.H0	T.7	7	ug/L
791-40-2	6-3exanone	11T		1.9	H0	67	ug/L
16z-z0-1	Dibromochloromethane	61.1		T.6	T.7	7	ug/L
1T2-9H-z	1,6-Dibromoethane	61.z		T.z1	T.7	7	ug/L
164-10-z	Qetrachloroethene	61.0		T.64	T.7	7	ug/L
1T0-9T-4	ChlorobenBene	6T.0		T.z9	T.7	7	ug/L
1TT-z1-z	Ethyl 8enBene	61.z		T.6	T.7	7	ug/L
1492T1-6H-1	m/p-Xylenes	zH2		T.97	1	1T	ug/L
97-z4-2	o-Xylene	66		T.zH	T.7	7	ug/L
1TT-z6-7	Styrene	66		T.H2	T.7	7	ug/L
47-67-6	8romoform	61.1		T.z4	T.7	7	ug/L
90-06-0	IsopropylbenBene	61.7		T.z7	T.7	7	ug/L
49-Hz-7	1,1,6,6-Qetrachloroethane	61.9		T.H1	T.7	7	ug/L
1TH-27-1	n-propylbenBene	61.2		T.z7	T.7	7	ug/L
1T0-24-0	1,H,7-OrimethylbenBene	61.9		T.z2	T.7	7	ug/L
90-T2-2	tert-8utylbenBene	61.4		T.zz	T.7	7	ug/L
97-2H-2	1,6,z-OrimethylbenBene	66.6		T.H0	T.7	7	ug/L
1H7-90-0	sec-8utylbenBene	61.4		T.z2	T.7	7	ug/L
99-04-2	p-Isopropyltoluene	61.0		T.zH	T.7	7	ug/L
7z1-4H-1	1,H-DichlorobenBene	61.6		T.zH	T.7	7	ug/L
1T2-z2-4	1,z-DichlorobenBene	6T.4		T.H6	T.7	7	ug/L
1Tz-71-0	n-8utylbenBene	61.6		T.z1	T.7	7	ug/L
97-7T-1	1,6-DichlorobenBene	61		T.z7	T.7	7	ug/L
92-16-0	1,6-Dibromo-H-Chloropropane	19.0		T.z2	6	7	ug/L
16T-06-1	1,6,z-OrichlorobenBene	6T.0		T.6	T.7	7	ug/L
91-6T-H	Naphthalene	6T.H		T.6	T.7	7	ug/L
04-21-2	1,6,H-OrichlorobenBene	6T.7		T.6	T.7	7	ug/L
16H-91-1	1,z-Dioxane	z7T		1TT	1TT	1TT	ug/L
SURROGATES							
14T2T-T4-T	1,6-Dichloroethane-dz	72.0		21 - 1z1		11z%	SPK: 7T
1020-7H-4	Dibromofluoromethane	77.7		29 - 1HH		111%	SPK: 7T
6TH4-62-7	Qoluene-d0	72.1		27 - 162		116%	SPK: 7T
z2T-TT-z	z-8romofluorobenBene	7z.9		70 - 1H7		11T%	SPK: 7T

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI7W8ST1	SDG No.:	31400
Lab Sample ID:	VNTHI7W8ST1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 5 nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group1
GC Column:	RXI-26z ID : T.67	Level :	LUW

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VNTHI60z.D	1		TH/17/12 10:z1	VNTHI712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H2H-46-z	PentafluorobenBene	07H219	4.47				
7zT-H2-H	1,z-DifluorobenBene	1z6HzzT	0.20				
HI1z-77-z	ChlorobenBene-d7	166z0HT	11.71				
HD77-06-1	1,z-DichlorobenBene-dz	764zT7	1Hz4				

5 J Not Detected
LUQ J Limit of Quantitation
MDL J Method Detection Limit
LUD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

kJ Estimated Value
8 J Analyte Found in Associated Method 8lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In3ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHI 7S8 SDT1	SDG No.:	3 1700
Lab Sample ID:	VDTHI 7S8 SDT1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU09zT.D	1		THI17/12 19:6H	VDTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
7z-71-0	Dichlorodifluoromethane	1z.2		T.z	T.z	z	ug/Kg
7U-07-H	Chloromethane	6T.1		T.z	T.z	z	ug/Kg
7z-T1-U	Vinyl Chloride	10.H		T.z	T.z	z	ug/Kg
7U-0H-9	8 romomethane	17.6		1	1	z	ug/Kg
7z-TT-H	Chloroethane	17.z		T.z	T.z	z	ug/Kg
7z-29-U	Orichlorofluoromethane	12.1		T.z	T.z	z	ug/Kg
72-1H-1	1,1,6-Orichlorotrifluoroethane	19		T.z	T.z	z	ug/Kg
7z-Hz-U	1,1-Dichloroethene	19.7		T.z	T.z	z	ug/Kg
27-2U-1	Acetone	92.H		6.z	6.z	6z	ug/Kg
7z-1z-T	Carbon Disulfide	17.2		T.z	T.z	z	ug/Kg
12HU-TU-U	Methyl tert-butyl Ether	10.9		T.z	T.z	z	ug/Kg
79-6T-9	Methyl Acetate	6H1		1	1	z	ug/Kg
7z-T9-6	Methylene Chloride	6T.0		T.z	T.z	z	ug/Kg
1z2-2T-z	trans-1,6-Dichloroethene	6T.z		T.z	T.z	z	ug/Kg
7z-HU-H	1,1-Dichloroethane	19.U		T.z	T.z	z	ug/Kg
11T-06-7	Cyclohexane	10.9		T.z	T.z	z	ug/Kg
70-9H-H	6-8 utanone	11T		H1	7.z	6z	ug/Kg
z2-6H-z	Carbon Qetrachloride	12.z		T.z	T.z	z	ug/Kg
1z2-z9-6	cis-1,6-Dichloroethene	6T.H		T.z	T.z	z	ug/Kg
7U-97-z	8 romochloromethane	6T.2		T.z	T.z	z	ug/Kg
27-22-H	Chloroform	10.1		T.z	T.z	z	ug/Kg
71-zz-2	1,1,1-Orichloroethane	17.U		T.z	T.z	z	ug/Kg
1T0-07-6	Methylcyclohexane	19.1		T.z	T.z	z	ug/Kg
71-UH-6	8 enBene	19.7		T.H0	T.z	z	ug/Kg
1T7-T2-6	1,6-Dichloroethane	17.0		T.z	T.z	z	ug/Kg
79-T1-2	Orichloroethene	10.z		T.z	T.z	z	ug/Kg
70-07-z	1,6-Dichloropropane	19.1		T.62	T.z	z	ug/Kg
7z-67-U	8 romodichloromethane	17.U		T.z	T.z	z	ug/Kg
1T0-1T-1	U-Methyl-6-Pentanone	11T		6.z	6.z	6z	ug/Kg
1T0-00-H	Qoluene	19		T.z	T.z	z	ug/Kg
1TT21-T6-2	t-1,H-Dichloropropene	17.9		T.z	T.z	z	ug/Kg
1TT21-T1-z	cis-1,H-Dichloropropene	10.7		T.z	T.z	z	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHI 7S8 SDT1	SDG No.:	3 1700
Lab Sample ID:	VDTHI 7S8 SDT1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Oest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VDTU09zT.D	1		TH/17/12 19:6H	VDTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
79-TT-z	1,1,6-Orichloroethane	19.1		T.9	1	z	ug/Kg
z91-70-2	6-3 exanone	1TT		6.z	6.z	6z	ug/Kg
16U-U0-1	Dibromochloromethane	17.2		T.z	T.z	z	ug/Kg
1T2-9H-U	1,6-Dibromoethane	10.2		T.z	T.z	z	ug/Kg
167-10-U	Oetrachloroethene	19.1		T.z	T.z	z	ug/Kg
1T0-9T-7	ChlorobenBene	19.6		T.z	T.z	z	ug/Kg
1TT-U1-U	Ethyl 8 enBene	19.U		T.z	T.z	z	ug/Kg
1792T1-6H-1	m/p-Xylenes	H9.1		T.76	1	1T	ug/Kg
9z-U7-2	o-Xylene	19.H		T.z	T.z	z	ug/Kg
1TT-U6-z	Styrene	19.H		T.Uz	T.z	z	ug/Kg
7z-6z-6	8 romoform	10.6		T.7U	1.z	z	ug/Kg
90-06-0	IsopropylbenBene	6T.7		T.U0	T.z	z	ug/Kg
79-HU-z	1,1,6,6-Oetrachloroethane	61.1		T.U2	T.z	z	ug/Kg
1TH-2z-1	n-propylbenBene	6T.2		T.H2	T.z	z	ug/Kg
1T0-27-0	1,H,z-OrimethylbenBene	6T		T.Uz	T.z	z	ug/Kg
90-T2-2	tert-8 utylbenBene	6T.7		T.z	T.z	z	ug/Kg
9z-2H-2	1,6,U-OrimethylbenBene	19.9		T.z	T.z	z	ug/Kg
1Hz-90-0	sec-8 utylbenBene	6T.6		T.z	T.z	z	ug/Kg
99-07-2	p-Isopropyltoluene	19.9		T.69	T.z	z	ug/Kg
zU1-7H-1	1,H-DichlorobenBene	19.6		T.H7	T.z	z	ug/Kg
1T2-U2-7	1,U-DichlorobenBene	19.2		T.U1	T.z	z	ug/Kg
1TU-z1-0	n-8 utylbenBene	19.9		T.U2	T.z	z	ug/Kg
9z-zT-1	1,6-DichlorobenBene	19.2		T.z	T.z	z	ug/Kg
92-16-0	1,6-Dibromo-H-Chloropropane	10.9		T.07	z	z	ug/Kg
16T-06-1	1,6,U-OrichlorobenBene	19.2		T.z	T.z	z	ug/Kg
91-6T-H	Naphthalene	6T.6		T.Uz	T.z	z	ug/Kg
07-21-2	1,6,H-OrichlorobenBene	19.U		T.z	1	z	ug/Kg
16H-91-1	1,U-Dioxane	UUT		1TT	1TT	1TT	ug/Kg
SURROGATES							
17T2T-T7-T	1,6-Dichloroethane-dU	H9.z		z2 - 16T		79%	SPK: zT
1020-zH-7	Dibromofluoromethane	U6.6		z7 - 1Hz		0U%	SPK: zT
6TH7-62-z	Ooluene-d0	UH7		27 - 16H		07%	SPK: zT
U2T-TT-U	U-8 romofluorobenBene	H9.7		HH- 1U1		79%	SPK: zT

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VDTHl7S8 SDT1	SDG No.:	3 1700
Lab Sample ID:	VDTHl7S8 SDT1	Matrix:	S4 IL
Analytical Method:	SW062T	% Moisture:	T
Sample Wt/Vol:	z 5 nits: g	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	V4 CMS Group1
GC Column:	ROX-VMS ID : T.10	Level :	L4 W

File ID/Qc 8atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8atch ID
VDTU09zT.D	1		TH/17/12 19:6H	VDTHl712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H2H-76-U	PentafluorobenBene	6627T7	2.HU				
zUT-H2-H	1,U-DifluorobenBene	HzUl69	7.U2				
Hl1U-zz-U	ChlorobenBene-dz	H026T1	11.z9				
H0zz-06-1	1,U-DichlorobenBene-dU	61Hl6U	1H9U				

5 J Not Detected
L4 Q J Limit of Quantitation
MDL J Method Detection Limit
L4 D J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In3ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 SDT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI 7W8 SDT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 z nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Uest:	V5 CMS Group1
GC Column:	RXI-26O ID : T.67	Level :	L5 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 607.D	1		TH/17/12 19:T9	VNTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
47-41-0	Dichlorodifluoromethane	6T.1		T.6	T.7	7	ug/L
4O-04-H	Chloromethane	66.9		T.6	T.7	7	ug/L
47-T1-O	Vinyl Chloride	6T.0		T.HO	T.7	7	ug/L
4O-0H-9	8 romomethane	19.2		T.6	T.7	7	ug/L
47-TT-H	Chloroethane	19.9		T.6	T.7	7	ug/L
47-29-O	Urichlorofluoromethane	6T.4		T.H7	T.7	7	ug/L
42-1H-1	1,1,6-Urichlorotrifluoroethane	6T.4		T.O7	T.7	7	ug/L
47-H7-O	1,1-Dichloroethene	6T.0		T.O4	T.7	7	ug/L
24-2O-1	Acetone	11T		T.7	6.7	67	ug/L
47-17-T	Carbon Disulfide	6T.H		T.6	T.7	7	ug/L
12HO-TO-O	Methyl tert-butyl Ether	61.9		T.H7	T.7	7	ug/L
49-6T-9	Methyl Acetate	66.4		T.6	6	7	ug/L
47-T9-6	Methylene Chloride	61.7		T.O1	T.7	7	ug/L
172-2T-7	trans-1,6-Dichloroethene	6T.9		T.O1	T.7	7	ug/L
47-HO-H	1,1-Dichloroethane	61.7		T.H2	T.7	7	ug/L
11T-06-4	Cyclohexane	61.9		T.6	T.7	7	ug/L
40-9H-H	6-8 utanone	16T		1.H	6.7	67	ug/L
72-6H-7	Carbon Uetrachloride	6T.0		T.6	T.7	7	ug/L
172-79-6	cis-1,6-Dichloroethene	61.2		T.H7	T.7	7	ug/L
4O-94-7	8 romochloromethane	19.2		T.6	T.7	7	ug/L
24-22-H	Chloroform	61.H		T.HO	T.7	7	ug/L
41-77-2	1,1,1-Urichloroethane	61		T.O	T.47	7	ug/L
1T0-04-6	Methylcyclohexane	6T.4		T.6	T.7	7	ug/L
41-OH-6	8 enBene	61.O		T.H6	T.7	7	ug/L
1T4-T2-6	1,6-Dichloroethane	61.O		T.O0	T.47	7	ug/L
49-T1-2	Urichloroethene	61.1		T.60	T.7	7	ug/L
40-04-7	1,6-Dichloropropane	61.2		T.O2	T.7	7	ug/L
47-64-O	8 romodichloromethane	61.6		T.H2	T.7	7	ug/L
1T0-1T-1	O-Methyl-6-Pentanone	16T		6.1	6.7	67	ug/L
1T0-00-H	Ucluene	66		T.H4	T.7	7	ug/L
1TT21-T6-2	t-1,H-Dichloropropene	6T.0		T.69	T.7	7	ug/L
1TT21-T1-7	cis-1,H-Dichloropropene	61		T.H1	T.7	7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 SDT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI 7W8 SDT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 z nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Uest:	V5 CMS Group1
GC Column:	RXI-26O ID : T.67	Level :	L5 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 607.D	1		TH/17/12 19:T9	VNTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
49-TT-7	1,1,6-Urichloroethane	61.O		T.H0	T.7	7	ug/L
791-40-2	6-3 exanone	16T		1.9	H0	67	ug/L
16O-O0-1	Dibromochloromethane	61.1		T.6	T.7	7	ug/L
1T2-9H-O	1,6-Dibromoethane	61.0		T.O1	T.7	7	ug/L
164-10-O	Uetrachloroethene	61.1		T.64	T.7	7	ug/L
1T0-9T-4	ChlorobenBene	61.O		T.O9	T.7	7	ug/L
1TT-O1-O	Ethyl 8 enBene	61.4		T.6	T.7	7	ug/L
1492T1-6H-1	m/p-Xylenes	OO.9		T.97	1	1T	ug/L
97-O4-2	o-Xylene	66.6		T.OH	T.7	7	ug/L
1TT-O6-7	Styrene	66.H		T.H2	T.7	7	ug/L
47-67-6	8 romoform	61.0		T.O4	T.7	7	ug/L
90-06-0	IsopropylbenBene	61.9		T.O7	T.7	7	ug/L
49-HO-7	1,1,6,6-Uetrachloroethane	66		T.H1	T.7	7	ug/L
1TH-27-1	n-propylbenBene	61.9		T.O7	T.7	7	ug/L
1T0-24-0	1,H,7-UrimethylbenBene	66.H		T.O2	T.7	7	ug/L
90-T2-2	tert-8 utylbenBene	66		T.OO	T.7	7	ug/L
97-2H-2	1,6,O-UrimethylbenBene	66.4		T.H0	T.7	7	ug/L
1H7-90-0	sec-8 utylbenBene	66.6		T.O2	T.7	7	ug/L
99-04-2	p-Isopropyltoluene	66.2		T.OH	T.7	7	ug/L
7O1-4H-1	1,H-DichlorobenBene	61.O		T.OH	T.7	7	ug/L
1T2-O2-4	1,O-DichlorobenBene	61.1		T.H6	T.7	7	ug/L
1TO-71-0	n-8 utylbenBene	61.2		T.O1	T.7	7	ug/L
97-7T-1	1,6-DichlorobenBene	61.7		T.O7	T.7	7	ug/L
92-16-0	1,6-Dibromo-H-Chloropropane	6T.7		T.O2	6	7	ug/L
16T-06-1	1,6,O-UrichlorobenBene	61.H		T.6	T.7	7	ug/L
91-6T-H	Naphthalene	61.6		T.6	T.7	7	ug/L
04-21-2	1,6,H-UrichlorobenBene	61.O		T.6	T.7	7	ug/L
16H-91-1	1,O-Dioxane	O2T		1TT	1TT	1TT	ug/L
SURROGATES							
14T2T-T4-T	1,6-Dichloroethane-dO	74.2		21 - 1O1		117%	SPK: 7T
1020-7H-4	Dibromofluoromethane	77.2		29 - 1HH		111%	SPK: 7T
6TH4-62-7	Uoluene-d0	74		27 - 162		11O%	SPK: 7T
O2T-TT-O	O-8 romofluorobenBene	72		70 - 1H7		116%	SPK: 7T

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 SDT1	SDG No.:	3 1400
Lab Sample ID:	VNTHI 7W8 SDT1	Matrix:	Water
Analytical Method:	SW062T	% Moisture:	1TT
Sample Wt/Vol:	7 z nits: mL	Final Vol:	7TTT uL
Soil Aliquot Vol:	uL	Ucest:	V5 CMS Group1
GC Column:	RXI-26O ID : T.67	Level :	L5 W

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 607.D	1		TH/17/12 19:T9	VNTHI 712

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
INTERNAL STANDARDS							
H2H-46-O	PentafluorobenBene	061T4T	4.47				
7OT-H2-H	1,O-DifluorobenBene	1H4744T	0.20				
HI1O-77-O	ChlorobenBene-d7	110T1HT	11.76				
HD77-06-1	1,O-DichlorobenBene-dO	7TO926	1HO4				

z J Not Detected
L5 Q J Limit of Quantitation
MDL J Method Detection Limit
L5 D J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In3 ouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_D Calibration Date(s): 03/17/2016 03/17/2016

Heated Purge: (Y/N) Y Calibration Time(s): 14:11 16:25

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VD048941.D RRF010 = VD048942.D RRF020 = VD048943.D
RRF050 = VD048944.D RRF100 = VD048945.D RRF150 = VD048946.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	1.092	1.149	1.071	1.107	1.035	1.009	1.077	4.7
Chloromethane	0.419	0.401	0.403	0.377	0.362	0.381	0.390	5.3
Vinyl Chloride	0.386	0.397	0.405	0.406	0.400	0.425	0.403	3.3
Bromomethane	0.322	0.322	0.337	0.279	0.304	0.206	0.295	16.2
Chloroethane	0.259	0.240	0.253	0.225	0.223	0.235	0.239	6.1
Trichlorofluoromethane	1.403	1.594	1.541	1.422	1.309	1.254	1.421	9.2
1,1,2-Trichlorotrifluoroethane	0.647	0.778	0.707	0.627	0.601	0.637	0.666	9.8
1,1-Dichloroethene	0.474	0.507	0.481	0.458	0.439	0.461	0.470	4.9
Acetone	0.207	0.215	0.190	0.176	0.167	0.182	0.189	9.7
Carbon Disulfide	1.426	1.409	1.369	1.484	1.468	1.579	1.456	5
Methyl tert-butyl Ether	1.441	1.827	1.756	1.582	1.533	1.634	1.629	8.8
Methyl Acetate	0.453	0.495	0.500	0.417	0.418	0.472	0.459	7.9
Methylene Chloride	0.724	0.688	0.630	0.552	0.526	0.555	0.612	13.3
trans-1,2-Dichloroethene	0.419	0.514	0.513	0.469	0.466	0.506	0.481	7.8
1,1-Dichloroethane	0.915	1.109	1.089	0.998	0.965	1.024	1.017	7.2
Cyclohexane	0.941	0.924	0.838	0.740	0.737	0.799	0.830	10.6
2-Butanone	0.189	0.236	0.211	0.198	0.193	0.213	0.207	8.3
Carbon Tetrachloride	0.753	0.866	0.895	0.800	0.779	0.750	0.807	7.5
cis-1,2-Dichloroethene	0.496	0.639	0.616	0.553	0.538	0.583	0.571	9.2
Bromochloromethane	0.309	0.433	0.422	0.437	0.417	0.418	0.406	11.9
Chloroform	1.350	1.758	1.693	1.496	1.408	1.476	1.530	10.5
1,1,1-Trichloroethane	1.218	1.527	1.513	1.391	1.344	1.363	1.393	8.3
Methylcyclohexane	0.603	0.617	0.667	0.638	0.630	0.655	0.635	3.7
Benzene	1.263	1.506	1.460	1.352	1.301	1.341	1.370	6.8
1,2-Dichloroethane	0.677	0.853	0.804	0.734	0.696	0.693	0.743	9.5
Trichloroethene	0.435	0.502	0.516	0.472	0.457	0.470	0.475	6.2
1,2-Dichloropropane	0.340	0.386	0.397	0.344	0.347	0.367	0.363	6.5
Bromodichloromethane	0.647	0.834	0.824	0.759	0.753	0.755	0.762	8.8
4-Methyl-2-Pentanone	0.307	0.413	0.397	0.362	0.360	0.363	0.367	10
Toluene	0.936	1.094	1.078	0.987	0.957	0.964	1.003	6.7
t-1,3-Dichloropropene	0.569	0.718	0.763	0.726	0.719	0.724	0.703	9.6
cis-1,3-Dichloropropene	0.601	0.797	0.808	0.739	0.731	0.747	0.737	10
1,1,2-Trichloroethane	0.313	0.428	0.417	0.372	0.357	0.363	0.375	11.3

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_D Calibration Date(s): 03/17/2016 03/17/2016

Heated Purge: (Y/N) Y Calibration Time(s): 14:11 16:25

GC Column: RTX-VMS ID: 0.18 (mm)

LAB FILE ID: RRF005 = VD048941.D RRF010 = VD048942.D RRF020 = VD048943.D
RRF050 = VD048944.D RRF100 = VD048945.D RRF150 = VD048946.D

COMPOUND	RRF005	RRF010	RRF020	RRF050	RRF100	RRF150	$\overline{RRF}$	% RSD
2-Hexanone	0.220	0.327	0.319	0.297	0.288	0.289	0.290	13.1
Dibromochloromethane	0.505	0.633	0.654	0.596	0.573	0.576	0.589	8.9
1,2-Dibromoethane	0.400	0.486	0.471	0.423	0.414	0.413	0.434	8.1
Tetrachloroethene	0.353	0.412	0.411	0.365	0.375	0.408	0.387	6.8
Chlorobenzene	1.138	1.323	1.275	1.119	1.109	1.173	1.190	7.5
Ethyl Benzene	1.955	2.333	2.323	2.063	1.998	2.050	2.120	7.8
m/p-Xylenes	0.713	0.826	0.817	0.721	0.691	0.706	0.746	8
o-Xylene	0.655	0.840	0.813	0.725	0.706	0.731	0.745	9.3
Styrene	1.032	1.297	1.334	1.186	1.157	1.205	1.202	8.9
Bromoform	0.240	0.339	0.342	0.314	0.328	0.348	0.318	12.6
Isopropylbenzene	3.455	4.064	3.987	3.494	3.567	3.698	3.711	7
1,1,2,2-Tetrachloroethane	0.874	1.100	0.965	0.861	0.877	0.935	0.935	9.6
n-propylbenzene	4.536	5.257	5.052	4.546	4.602	4.661	4.776	6.4
1,3,5-Trimethylbenzene	2.764	3.398	3.289	2.949	2.932	2.991	3.054	7.9
tert-Butylbenzene	2.573	3.247	3.080	2.800	2.782	2.989	2.912	8.3
1,2,4-Trimethylbenzene	2.825	3.510	3.455	3.046	3.033	3.076	3.157	8.5
sec-Butylbenzene	3.819	4.550	4.507	3.908	3.934	3.980	4.116	7.9
p-Isopropyltoluene	3.204	3.975	3.836	3.407	3.406	3.417	3.541	8.4
1,3-Dichlorobenzene	1.928	2.262	2.180	1.862	1.877	1.950	2.010	8.4
1,4-Dichlorobenzene	1.925	2.229	2.109	1.866	1.906	1.966	2.000	7
n-Butylbenzene	3.215	3.752	3.757	3.285	3.281	3.307	3.433	7.3
1,2-Dichlorobenzene	1.633	2.027	1.932	1.685	1.729	1.743	1.791	8.6
1,2-Dibromo-3-Chloropropane	0.115	0.154	0.160	0.144	0.157	0.173	0.151	13.1
1,2,4-Trichlorobenzene	0.994	1.221	1.194	1.087	1.110	1.160	1.128	7.3
Naphthalene	1.703	2.449	2.402	2.215	2.383	2.516	2.278	13.1
1,2,3-Trichlorobenzene	0.804	1.033	1.028	0.938	0.973	1.030	0.968	9.2
1,2-Dichloroethane-d4	1.438	1.176	1.097	0.939	0.886	0.923	1.076	19.5
Dibromofluoromethane	0.741	0.551	0.575	0.482	0.471	0.476	0.549	18.8
Toluene-d8	1.919	1.558	1.573	1.322	1.318	1.341	1.505	15.6
4-Bromofluorobenzene	1.131	0.893	0.910	0.733	0.709	0.694	0.845	20
1,4-Dioxane	1.663	3.229	3.162	2.933	3.106	3.284	2.896	21.3

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_N Calibration Date(s): 03/15/2016 03/15/2016

Heated Purge: (Y/N) N Calibration Time(s): 10:21 12:49

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN031271.D RRF005 = VN031272.D RRF020 = VN031273.D
RRF050 = VN031274.D RRF100 = VN031275.D RRF200 = VN031276.D

COMPOUND	RRF001	RRF005	RRF020	RRF050	RRF100	RRF200	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.778	0.735	0.598	0.600	0.583	0.603	0.649	13
Chloromethane	0.976	0.812	0.666	0.666	0.652	0.675	0.741	17.5
Vinyl Chloride	0.831	0.821	0.673	0.680	0.672	0.686	0.727	10.5
Bromomethane	0.482	0.418	0.329	0.342	0.356	0.385	0.385	14.9
Chloroethane	0.492	0.451	0.393	0.402	0.388	0.400	0.421	9.8
Trichlorofluoromethane	1.037	0.979	0.814	0.861	0.843	0.853	0.898	9.9
1,1,2-Trichlorotrifluoroethane	0.674	0.619	0.516	0.530	0.515	0.525	0.563	11.9
1,1-Dichloroethene	0.620	0.587	0.493	0.502	0.505	0.516	0.537	9.9
Acetone	0.190	0.184	0.175	0.178	0.170	0.169	0.178	4.6
Carbon Disulfide	1.943	1.860	1.473	1.518	1.484	1.528	1.634	12.8
Methyl tert-butyl Ether	1.467	1.448	1.343	1.439	1.459	1.513	1.445	3.9
Methyl Acetate	0.437	0.459	0.454	0.502	0.506	0.526	0.481	7.4
Methylene Chloride	0.740	0.678	0.583	0.586	0.572	0.586	0.624	11
trans-1,2-Dichloroethene	0.628	0.604	0.522	0.550	0.547	0.563	0.569	6.9
1,1-Dichloroethane	1.199	1.131	1.012	1.066	1.054	1.085	1.091	6
Cyclohexane	1.952	1.232	0.961	1.008	0.996	1.018	1.195	32.1
2-Butanone	0.155	0.199	0.197	0.222	0.220	0.228	0.204	13.3
Carbon Tetrachloride	0.490	0.486	0.416	0.451	0.445	0.448	0.456	6.1
cis-1,2-Dichloroethene	0.694	0.657	0.600	0.631	0.628	0.642	0.642	5
Bromochloromethane	0.502	0.460	0.409	0.399	0.402	0.385	0.426	10.7
Chloroform	1.238	1.113	0.995	1.038	1.017	1.028	1.071	8.5
1,1,1-Trichloroethane	0.920	0.892	0.789	0.840	0.832	0.865	0.856	5.4
Methylcyclohexane	0.608	0.634	0.531	0.599	0.594	0.611	0.596	5.8
Benzene	1.561	1.570	1.384	1.460	1.436	1.442	1.476	5
1,2-Dichloroethane	0.538	0.513	0.451	0.481	0.461	0.464	0.485	7
Trichloroethene	0.396	0.388	0.336	0.359	0.355	0.359	0.365	6.1
1,2-Dichloropropane	0.414	0.409	0.366	0.387	0.383	0.387	0.391	4.5
Bromodichloromethane	0.524	0.506	0.455	0.479	0.474	0.479	0.486	5.1
4-Methyl-2-Pentanone	0.236	0.242	0.243	0.272	0.269	0.268	0.255	6.4
Toluene	0.832	0.906	0.814	0.872	0.867	0.873	0.861	3.8
t-1,3-Dichloropropene	0.394	0.416	0.380	0.444	0.470	0.499	0.434	10.5
cis-1,3-Dichloropropene	0.504	0.525	0.454	0.547	0.561	0.585	0.529	8.8
1,1,2-Trichloroethane	0.339	0.343	0.310	0.323	0.314	0.310	0.323	4.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_N Calibration Date(s): 03/15/2016 03/15/2016

Heated Purge: (Y/N) N Calibration Time(s): 10:21 12:49

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN031271.D RRF005 = VN031272.D RRF020 = VN031273.D
RRF050 = VN031274.D RRF100 = VN031275.D RRF200 = VN031276.D

COMPOUND	RRF001	RRF005	RRF020	RRF050	RRF100	RRF200	$\overline{RRF}$	% RSD
2-Hexanone	0.137	0.152	0.151	0.180	0.177	0.176	0.162	11.1
Dibromochloromethane	0.354	0.356	0.326	0.354	0.351	0.353	0.349	3.3
1,2-Dibromoethane	0.294	0.298	0.275	0.305	0.303	0.308	0.297	4.1
Tetrachloroethene	0.451	0.422	0.368	0.364	0.345	0.336	0.381	12
Chlorobenzene	1.219	1.173	1.004	1.068	1.060	1.067	1.098	7.3
Ethyl Benzene	1.763	1.890	1.644	1.829	1.843	1.854	1.804	4.9
m/p-Xylenes	0.595	0.703	0.618	0.698	0.694	0.700	0.668	7.3
o-Xylene	0.573	0.677	0.610	0.679	0.680	0.689	0.651	7.4
Styrene	0.870	1.003	0.946	1.100	1.106	1.122	1.025	10
Bromoform	0.235	0.234	0.226	0.245	0.243	0.242	0.237	3
Isopropylbenzene	4.204	4.347	3.828	4.124	4.080	4.077	4.110	4.2
1,1,2,2-Tetrachloroethane	1.198	1.090	0.964	0.964	0.914	0.889	1.003	11.8
n-propylbenzene	4.467	4.773	4.302	4.731	4.712	4.721	4.618	4.1
1,3,5-Trimethylbenzene	3.081	3.359	3.076	3.320	3.295	3.299	3.238	3.9
tert-Butylbenzene	2.674	3.000	2.616	2.866	2.826	2.836	2.803	4.9
1,2,4-Trimethylbenzene	2.875	3.406	3.074	3.380	3.301	3.274	3.218	6.4
sec-Butylbenzene	3.725	4.128	3.726	4.069	4.028	4.060	3.956	4.6
p-Isopropyltoluene	2.796	3.324	3.058	3.379	3.373	3.366	3.216	7.4
1,3-Dichlorobenzene	1.767	1.890	1.571	1.716	1.679	1.674	1.716	6.2
1,4-Dichlorobenzene	1.900	1.810	1.576	1.678	1.652	1.669	1.714	6.9
n-Butylbenzene	2.470	2.809	2.527	2.990	3.053	3.124	2.829	9.8
1,2-Dichlorobenzene	1.895	1.770	1.587	1.667	1.602	1.603	1.687	7.2
1,2-Dibromo-3-Chloropropane	0.188	0.138	0.132	0.142	0.143	0.154	0.150	13.5
1,2,4-Trichlorobenzene	0.544	0.708	0.700	0.894	0.943	1.039	0.805	23
Naphthalene	0.828	1.180	1.342	2.027	2.229	2.497	1.684	39.2
1,2,3-Trichlorobenzene	0.639	0.681	0.707	0.857	0.901	0.963	0.791	16.8
1,2-Dichloroethane-d4		0.618	0.533	0.623	0.613	0.615	0.601	6.3
Dibromofluoromethane		0.314	0.270	0.317	0.312	0.311	0.305	6.4
Toluene-d8		1.102	0.967	1.189	1.186	1.183	1.125	8.5
4-Bromofluorobenzene		0.380	0.319	0.403	0.414	0.411	0.386	10.2
1,4-Dioxane	3.573	3.526	3.207	3.537	3.365	3.403	3.435	4

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_D Calibration Date/Time: 03/18/2016 09:51

Lab File ID: VD048960.D Init. Calib. Date(s): 03/17/2016 03/17/2016

Heated Purge: (Y/N) Y Init. Calib. Time(s): 14:11 16:25

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	1.077	1.238		14.95	20
Chloromethane	0.390	0.396	0.1	1.36	20
Vinyl Chloride	0.403	0.440		9.03	20
Bromomethane	0.295	0.313		6	20
Chloroethane	0.239	0.253		5.9	20
Trichlorofluoromethane	1.421	1.598		12.47	20
1,1,2-Trichlorotrifluoroethane	0.666	0.741		11.2	20
1,1-Dichloroethene	0.470	0.509		8.34	20
Acetone	0.189	0.185		-2.22	20
Carbon Disulfide	1.456	1.687		15.9	20
Methyl tert-butyl Ether	1.629	1.718		5.46	20
Methyl Acetate	0.459	0.454		-1.2	20
Methylene Chloride	0.612	0.610		-0.47	20
trans-1,2-Dichloroethene	0.481	0.528		9.67	20
1,1-Dichloroethane	1.017	1.108	0.1	9.03	20
Cyclohexane	0.830	0.833		0.37	20
2-Butanone	0.207	0.201		-2.52	20
Carbon Tetrachloride	0.807	0.934		15.67	20
cis-1,2-Dichloroethene	0.571	0.626		9.6	20
Bromochloromethane	0.406	0.469		15.54	20
Chloroform	1.530	1.644		7.43	20
1,1,1-Trichloroethane	1.393	1.534		10.18	20
Methylcyclohexane	0.635	0.715		12.57	20
Benzene	1.370	1.528		11.49	20
1,2-Dichloroethane	0.743	0.825		11.04	20
Trichloroethene	0.475	0.532		11.87	20
1,2-Dichloropropane	0.363	0.393		8.15	20
Bromodichloromethane	0.762	0.863		13.31	20
4-Methyl-2-Pentanone	0.367	0.391		6.43	20
Toluene	1.003	1.102		9.92	20
t-1,3-Dichloropropene	0.703	0.806		14.65	20
cis-1,3-Dichloropropene	0.737	0.835		13.24	20
1,1,2-Trichloroethane	0.375	0.398		5.97	20
2-Hexanone	0.290	0.313		7.97	20
Dibromochloromethane	0.589	0.667		13.27	20
1,2-Dibromoethane	0.434	0.467		7.6	20
Tetrachloroethene	0.387	0.428		10.46	20
Chlorobenzene	1.190	1.303	0.3	9.53	20
Ethyl Benzene	2.120	2.362		11.38	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: MSVOA_D Calibration Date/Time: 03/18/2016 09:51

Lab File ID: VD048960.D Init. Calib. Date(s): 03/17/2016 03/17/2016

Heated Purge: (Y/N) Y Init. Calib. Time(s): 14:11 16:25

GC Column: RTX-VMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
m/p-Xylenes	0.746	0.823		10.32	20
o-Xylene	0.745	0.820		10.08	20
Styrene	1.202	1.360		13.13	20
Bromoform	0.318	0.354	0.1	11.27	20
Isopropylbenzene	3.711	4.118		10.96	20
1,1,2,2-Tetrachloroethane	0.935	0.966	0.3	3.33	20
n-propylbenzene	4.776	5.350		12.02	20
1,3,5-Trimethylbenzene	3.054	3.410		11.66	20
tert-Butylbenzene	2.912	3.392		16.48	20
1,2,4-Trimethylbenzene	3.157	3.555		12.6	20
sec-Butylbenzene	4.116	4.580		11.25	20
p-Isopropyltoluene	3.541	3.993		12.76	20
1,3-Dichlorobenzene	2.010	2.175		8.22	20
1,4-Dichlorobenzene	2.000	2.203		10.14	20
n-Butylbenzene	3.433	3.932		14.54	20
1,2-Dichlorobenzene	1.791	1.969		9.9	20
1,2-Dibromo-3-Chloropropane	0.151	0.162		7.37	20
1,2,4-Trichlorobenzene	1.128	1.262		11.87	20
Naphthalene	2.278	2.418		6.13	20
1,2,3-Trichlorobenzene	0.968	1.054		8.93	20
1,2-Dichloroethane-d4	1.076	1.033		-4.05	20
Dibromofluoromethane	0.549	0.561		2.18	20
Toluene-d8	1.505	1.509		0.24	20
4-Bromofluorobenzene	0.845	0.860		1.81	20
1,4-Dioxane	2.896	3.188	0.05	10.06	50

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/16/16	03/19/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/16/16	03/19/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/16/16	03/19/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/16/16	03/19/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/16/16	03/19/16	
H1788-06	**TW-1**	**Water**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/17/16	03/19/16	
H1788-07	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/17/16	03/19/16	
H1788-08	**TW-4**	**Water**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/17/16	03/19/16	
H1788-09	**TW-5**	**Water**			**03/12/16**			**03/14/16**
			SVOCMS Group1	8270D		03/17/16	03/19/16	

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Hit Summary Sheet
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
Client ID :	**SB-1(8-9)**									
H1788-01	SB-1(8-9)	SOIL	Dimethylphthalate		380.000		10.4	38.4	380	ug/Kg
			Total Svoc :		**380.00**					
H1788-01	SB-1(8-9)	SOIL	Eicosane	*	98.700	J	0		0	ug/Kg
H1788-01	SB-1(8-9)	SOIL	Tetradecane	*	78.000	J	0		0	ug/Kg
H1788-01	SB-1(8-9)	SOIL	Trichloroacetic acid, hexadecyl es	*	220.000	J	0		0	ug/Kg
H1788-01	SB-1(8-9)	SOIL	Tridecanoic acid	*	120.000	J	0		0	ug/Kg
H1788-01	SB-1(8-9)	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	90.300	A	0		0	ug/Kg
			Total Tics :		**607.00**					
			Total Concentration:		**987.00**					
Client ID :	**SB-2(8-9)**									
H1788-02	SB-2(8-9)	SOIL	Dimethylphthalate		550.000		10.8	39.9	400	ug/Kg
			Total Svoc :		**550.00**					
H1788-02	SB-2(8-9)	SOIL	2-Ethyl-1-dodecanol	*	240.000	J	0		0	ug/Kg
H1788-02	SB-2(8-9)	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	150.000	A	0		0	ug/Kg
H1788-02	SB-2(8-9)	SOIL	Decane, 2,3,5-trimethyl-	*	89.500	J	0		0	ug/Kg
H1788-02	SB-2(8-9)	SOIL	n-Hexadecanoic acid	*	170.000	J	0		0	ug/Kg
H1788-02	SB-2(8-9)	SOIL	Nonadecane	*	120.000	J	0		0	ug/Kg
			Total Tics :		**769.50**					
			Total Concentration:		**1,319.50**					
Client ID :	**SB-3(7-8)**									
H1788-03	SB-3(7-8)	SOIL	Dimethylphthalate		680.000		9.9	36.6	360	ug/Kg
			Total Svoc :		**680.00**					
H1788-03	SB-3(7-8)	SOIL	17-Pentatriacontene	*	400.000	J	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	97.700	A	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	Heneicosane	*	130.000	J	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	Heptadecane	*	100.000	J	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	n-Hexadecanoic acid	*	160.000	J	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	Octacosane	*	93.000	J	0		0	ug/Kg
H1788-03	SB-3(7-8)	SOIL	Tetratriacontane	*	79.100	J	0		0	ug/Kg
			Total Tics :		**1,059.80**					
			Total Concentration:		**1,739.80**					
Client ID :	**SB-4(7-8)**									
H1788-04	SB-4(7-8)	SOIL	Dimethylphthalate		410.000		10.2	37.6	370	ug/Kg
			Total Svoc :		**410.00**					
H1788-04	SB-4(7-8)	SOIL	9-Octadecenamide, (Z)-	*	800.000	J	0		0	ug/Kg
H1788-04	SB-4(7-8)	SOIL	Heptadecane	*	93.000	J	0		0	ug/Kg
H1788-04	SB-4(7-8)	SOIL	Hexadecanamide	*	84.700	J	0		0	ug/Kg
H1788-04	SB-4(7-8)	SOIL	Pentadecane	*	120.000	J	0		0	ug/Kg

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Hit Summary Sheet
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Sample ID	Client ID	Matrix	Parameter		Concentration	C	MDL	LOD	RDL	Units
H1788-04	SB-4(7-8)	SOIL	Trichloroacetic acid, pentadecyl e	*	200.000	J	0		0	ug/Kg
H1788-04	SB-4(7-8)	SOIL	unknown12.78	*	96.400	J	0		0	ug/Kg
			Total Tics :		**1,394.10**					
			Total Concentration:		**1,804.10**					
Client ID :	**SB-5(9-10)**									
H1788-05	SB-5(9-10)	SOIL	Dimethylphthalate		570.000		10.8	40.2	400	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Bis(2-ethylhexyl)phthalate		190.000	J	14.2	40.2	400	ug/Kg
			Total Svoc :		**760.00**					
H1788-05	SB-5(9-10)	SOIL	.beta.-iso-Methyl ionone	*	180.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	2,2,6-Trimethyl-1-(2-methyl-cycl	*	140.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	28-Nor-17.alpha.(H)-hopane	*	220.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Heptafluorobutanoic acid, heptade	*	110.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Nonadecane	*	170.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Pentadecane, 2,6,10-trimethyl-	*	84.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Tetradecane	*	110.000	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	Tridecanoic acid	*	81.600	J	0		0	ug/Kg
H1788-05	SB-5(9-10)	SOIL	unknown6.62	*	3,000.000	J	0		0	ug/Kg
			Total Tics :		**4,095.60**					
			Total Concentration:		**4,855.60**					
Client ID :	**TW-1**									
H1788-06	TW-1	WATER	unknown6.62	*	71.700	JB	0		0	ug/L
			Total Tics :		**71.70**					
			Total Concentration:		**71.70**					
Client ID :	**TW-2**									
H1788-07	TW-2	WATER	unknown6.62	*	69.900	JB	0		0	ug/L
			Total Tics :		**69.90**					
			Total Concentration:		**69.90**					
Client ID :	**TW-4**									
H1788-08	TW-4	WATER	unknown6.62	*	70.100	JB	0		0	ug/L
			Total Tics :		**70.10**					
			Total Concentration:		**70.10**					
Client ID :	**TW-5**									
H1788-09	TW-5	WATER	unknown6.62	*	73.400	JB	0		0	ug/L
			Total Tics :		**73.40**					
			Total Concentration:		**73.40**					

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085576.D	1	03/16/16 08:58	03/19/16 16:46	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	38.4	U	20.1	38.4	380	ug/Kg
108-95-2	Phenol	38.4	U	8.9	38.4	380	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	38.4	U	18.4	38.4	380	ug/Kg
95-57-8	2-Chlorophenol	38.4	U	20.3	38.4	380	ug/Kg
95-48-7	2-Methylphenol	38.4	U	20.9	38.4	380	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	38.4	U	15.9	38.4	380	ug/Kg
98-86-2	Acetophenone	38.4	U	11.8	38.4	380	ug/Kg
65794-96-9	3+4-Methylphenols	38.4	U	19.9	38.4	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	38.4	U	19.4	38.4	380	ug/Kg
67-72-1	Hexachloroethane	38.4	U	17.2	38.4	380	ug/Kg
98-95-3	Nitrobenzene	38.4	U	14.5	38.4	380	ug/Kg
78-59-1	Isophorone	38.4	U	12.7	38.4	380	ug/Kg
88-75-5	2-Nitrophenol	38.4	U	18.6	38.4	380	ug/Kg
105-67-9	2,4-Dimethylphenol	38.4	U	21.8	38.4	380	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	38.4	U	22.1	38.4	380	ug/Kg
120-83-2	2,4-Dichlorophenol	38.4	U	14.6	38.4	380	ug/Kg
91-20-3	Naphthalene	38.4	U	13.3	38.4	380	ug/Kg
106-47-8	4-Chloroaniline	38.4	U	27.1	38.4	380	ug/Kg
87-68-3	Hexachlorobutadiene	38.4	U	13.9	38.4	380	ug/Kg
105-60-2	Caprolactam	76.8	U	17.9	76.8	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	38.4	U	17.1	38.4	380	ug/Kg
91-57-6	2-Methylnaphthalene	38.4	U	9.7	38.4	380	ug/Kg
77-47-4	Hexachlorocyclopentadiene	38.4	U	9.3	38.4	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	38.4	U	11.8	38.4	380	ug/Kg
95-95-4	2,4,5-Trichlorophenol	38.4	U	27	38.4	380	ug/Kg
92-52-4	1,1-Biphenyl	38.4	U	14.5	38.4	380	ug/Kg
91-58-7	2-Chloronaphthalene	38.4	U	8.8	38.4	380	ug/Kg
88-74-4	2-Nitroaniline	38.4	U	17.1	38.4	380	ug/Kg
131-11-3	Dimethylphthalate	380		10.4	38.4	380	ug/Kg
208-96-8	Acenaphthylene	38.4	U	9.7	38.4	380	ug/Kg
606-20-2	2,6-Dinitrotoluene	38.4	U	15.7	38.4	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085576.D	1	03/16/16 08:58	03/19/16 16:46	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	76.8	U	24.7	76.8	380	ug/Kg
83-32-9	Acenaphthene	38.4	U	10.8	38.4	380	ug/Kg
51-28-5	2,4-Dinitrophenol	310	U	39.1	310	380	ug/Kg
100-02-7	4-Nitrophenol	190	U	71.3	190	380	ug/Kg
132-64-9	Dibenzofuran	38.4	U	15	38.4	380	ug/Kg
121-14-2	2,4-Dinitrotoluene	38.4	U	11.5	38.4	380	ug/Kg
84-66-2	Diethylphthalate	38.4	U	6	38.4	380	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	38.4	U	20.9	38.4	380	ug/Kg
86-73-7	Fluorene	38.4	U	14.5	38.4	380	ug/Kg
100-01-6	4-Nitroaniline	76.8	U	50	76.8	380	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	190	U	22	190	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	38.4	U	9.2	38.4	380	ug/Kg
101-55-3	4-Bromophenyl-phenylether	38.4	U	7.5	38.4	380	ug/Kg
118-74-1	Hexachlorobenzene	38.4	U	15.7	38.4	380	ug/Kg
1912-24-9	Atrazine	38.4	U	20.3	38.4	380	ug/Kg
87-86-5	Pentachlorophenol	38.4	U	26.3	38.4	380	ug/Kg
85-01-8	Phenanthrene	38.4	U	10.4	38.4	380	ug/Kg
120-12-7	Anthracene	38.4	U	7.8	38.4	380	ug/Kg
86-74-8	Carbazole	38.4	U	8.4	38.4	380	ug/Kg
84-74-2	Di-n-butylphthalate	38.4	U	30.2	38.4	380	ug/Kg
206-44-0	Fluoranthene	38.4	U	7.7	38.4	380	ug/Kg
129-00-0	Pyrene	38.4	U	9.2	38.4	380	ug/Kg
85-68-7	Butylbenzylphthalate	38.4	U	18.4	38.4	380	ug/Kg
91-94-1	3,3-Dichlorobenzidine	38.4	U	24.7	38.4	380	ug/Kg
56-55-3	Benzo(a)anthracene	38.4	U	18.3	38.4	380	ug/Kg
218-01-9	Chrysene	38.4	U	17.4	38.4	380	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	38.4	U	13.6	38.4	380	ug/Kg
117-84-0	Di-n-octyl phthalate	38.4	UQ	4.4	38.4	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	38.4	U	12.6	38.4	380	ug/Kg
207-08-9	Benzo(k)fluoranthene	38.4	U	18.1	38.4	380	ug/Kg
50-32-8	Benzo(a)pyrene	38.4	U	8.3	38.4	380	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	38.4	U	12.8	38.4	380	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	38.4	U	11.1	38.4	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085576.D	1	03/16/16 08:58	03/19/16 16:46	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	38.4	U	15.6	38.4	380	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	38.4	U	15.1	38.4	380	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	38.4	U	15.1	38.4	380	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	100		28 - 127		67%	SPK: 150
13127-88-3	Phenol-d6	100		34 - 127		69%	SPK: 150
4165-60-0	Nitrobenzene-d5	78.2		31 - 132		78%	SPK: 100
321-60-8	2-Fluorobiphenyl	71.7		39 - 123		72%	SPK: 100
118-79-6	2,4,6-Tribromophenol	100		30 - 133		67%	SPK: 150
1718-51-0	Terphenyl-d14	81.7		37 - 115		82%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	127674	6.85				
1146-65-2	Naphthalene-d8	532413	8.14				
15067-26-2	Acenaphthene-d10	236415	9.89				
1517-22-2	Phenanthrene-d10	459884	11.37				
1719-03-5	Chrysene-d12	308596	14				
1520-96-3	Perylene-d12	236207	15.43				
TENTATIVE IDENTIFIED COMPOUNDS							
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	90.3	A			5.05	ug/Kg
000629-59-4	Tetradecane	78	J			10.32	ug/Kg
000112-95-8	Eicosane	98.7	J			10.79	ug/Kg
000638-53-9	Tridecanoic acid	120	J			11.9	ug/Kg
074339-54-1	Trichloroacetic acid, hexadecyl es	220	J			13.85	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (02	% Moisture:	16.0
Sample Wt/Vol:	32.2z Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2) zz09.D	1	23/16/16 2) :z)	23/19/16 1) :29	PB)) 9(z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
122-z(-0	BenQaldehyde	39.9	U	(2.9	39.9	422	ug/Kg
12) -9z-(	Phenol	39.9	U	9.(	39.9	422	ug/Kg
111-44-4	bis8(-ChloroethylHether	39.9	U	19.(	39.9	422	ug/Kg
9z-z0-)	(-Chlorophenol	39.9	U	(1.1	39.9	422	ug/Kg
9z-4) -0	(-Methylphenol	39.9	U	(1.0	39.9	422	ug/Kg
12) -62-1	(,(-oxybis8l-ChloropropaneH	39.9	U	16.z	39.9	422	ug/Kg
9) -) 6-(	Acetophenone	39.9	U	1(.(	39.9	422	ug/Kg
6z094-96-9	3+4-Methylphenols	39.9	U	(2.0	39.9	422	ug/Kg
6(1-64-0	n-Nitroso-di-n-propylamine	39.9	U	(2.1	39.9	422	ug/Kg
60-0(-1	7 exachloroethane	39.9	U	10.9	39.9	422	ug/Kg
9) -9z-3	NitrobenQene	39.9	U	1z.1	39.9	422	ug/Kg
0) -z9-1	Isophorone	39.9	U	13.(	39.9	422	ug/Kg
)) -0z-z	(-Nitrophenol	39.9	U	19.3	39.9	422	ug/Kg
12z-60-9	(,4-Dimethylphenol	39.9	U	((.0	39.9	422	ug/Kg
111-91-1	bis8(-ChloroethoxyHmethane	39.9	U	(3	39.9	422	ug/Kg
1(2-) 3-(	(,4-Dichlorophenol	39.9	U	1z.(	39.9	422	ug/Kg
91-(2-3	Naphthalene	39.9	U	13.)	39.9	422	ug/Kg
126-40-)	4-Chloroaniline	39.9	U	( ) .(	39.9	422	ug/Kg
) 0-6) -3	7 exachlorobutadiene	39.9	U	14.z	39.9	422	ug/Kg
12z-62-(	Caprolactam	09.9	U	1) .6	09.9	422	ug/Kg
z9-z2-0	4-Chloro-3-methylphenol	39.9	U	10.0	39.9	422	ug/Kg
91-z0-6	(-Methylnaphthalene	39.9	U	12.1	39.9	422	ug/Kg
00-40-4	7 exachlorocyclopentadiene	39.9	U	9.0	39.9	422	ug/Kg
)) -26-(	(,4,6-Trichlorophenol	39.9	U	1(.(	39.9	422	ug/Kg
9z-9z-4	(,4,z-Trichlorophenol	39.9	U	( )	39.9	422	ug/Kg
9(-z(-4	1,1-Biphenyl	39.9	U	1z.1	39.9	422	ug/Kg
91-z) -0	(-Chloronaphthalene	39.9	U	9.1	39.9	422	ug/Kg
)) -04-4	(-Nitroaniline	39.9	U	10.0	39.9	422	ug/Kg
131-11-3	Dimethylphthalate	zz2		12.)	39.9	422	ug/Kg
(2) -96-)	Acenaphthylene	39.9	U	12.1	39.9	422	ug/Kg
626-(2-(	(,6-Dinitrotoluene	39.9	U	16.3	39.9	422	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (02	% Moisture:	16.0
Sample Wt/Vol:	32.2z Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2) zz09.D	1	23/16/16 2) :z)	23/19/16 1) :29	PB)) 9(z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-29-(	3-Nitroaniline	09.9	U	(z.6	09.9	422	ug/Kg
) 3-3(-9	Acenaphthene	39.9	U	11.3	39.9	422	ug/Kg
z1-( ) -z	(,4-Dinitrophenol	3(2	U	42.6	3(2	422	ug/Kg
122-2(-0	4-Nitrophenol	(22	U	04.(	(22	422	ug/Kg
13(-64-9	DibenQofuran	39.9	U	1z.6	39.9	422	ug/Kg
1(1-14-(	(,4-Dinitrotoluene	39.9	U	1(	39.9	422	ug/Kg
) 4-66-(	Diethylphthalate	39.9	U	6.(	39.9	422	ug/Kg
022z-0(-3	4-Chlorophenyl-phenylether	39.9	U	(1.0	39.9	422	ug/Kg
) 6-03-0	Fluorene	39.9	U	1z.1	39.9	422	ug/Kg
122-21-6	4-Nitroaniline	09.9	U	z(	09.9	422	ug/Kg
z34-z(-1	4,6-Dinitro-(-methylphenol	(22	U	((.9	(22	422	ug/Kg
) 6-32-6	n-Nitrosodiphenylamine	39.9	U	9.6	39.9	422	ug/Kg
121-zz-3	4-Bromophenyl-phenylether	39.9	U	0.)	39.9	422	ug/Kg
11) -04-1	7 exachlorobenQene	39.9	U	16.3	39.9	422	ug/Kg
191(-(4-9	AtraQine	39.9	U	(1.1	39.9	422	ug/Kg
) 0-) 6-z	Pentachlorophenol	39.9	U	(0.3	39.9	422	ug/Kg
) z-21-)	Phenanthrene	39.9	U	12.)	39.9	422	ug/Kg
1(2-1(-0	Anthracene	39.9	U	) .1	39.9	422	ug/Kg
) 6-04-)	CarbaQole	39.9	U	) .0	39.9	422	ug/Kg
) 4-04-(	Di-n-butylphthalate	39.9	U	31.4	39.9	422	ug/Kg
(26-44-2	Fluoranthene	39.9	U	)	39.9	422	ug/Kg
1(9-22-2	Pyrene	39.9	U	9.6	39.9	422	ug/Kg
) z-6) -0	ButylbenQylphthalate	39.9	U	19.(	39.9	422	ug/Kg
91-94-1	3,3-DichlorobenQidine	39.9	U	(z.6	39.9	422	ug/Kg
z6-zz-3	BenQo&aHanthracene	39.9	U	19.1	39.9	422	ug/Kg
(1) -21-9	Chrysene	39.9	U	1) .1	39.9	422	ug/Kg
110-) 1-0	Bis8(-ethylhexylHphthalate	39.9	U	14.1	39.9	422	ug/Kg
110-) 4-2	Di-n-octyl phthalate	39.9	U5	4.6	39.9	422	ug/Kg
(2z-99-(	BenQo8bHfluoranthene	39.9	U	13.1	39.9	422	ug/Kg
(20-2) -9	BenQo8kHfluoranthene	39.9	U	1) .)	39.9	422	ug/Kg
z2-3(-)	BenQo&aHpyrene	39.9	U	) .6	39.9	422	ug/Kg
193-39-z	Indeno8l,(,3-cdHpyrene	39.9	U	13.3	39.9	422	ug/Kg
z3-02-3	DibenQo8a,hHanthracene	39.9	U	11.z	39.9	422	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	23/1(/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	23/14/16
Client Sample ID:	SB-(8) -9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -2(	Matrix:	SOIL
Analytical Method:	SW) (02	% Moisture:	16.0
Sample Wt/Vol:	32.2z Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2) zz09.D	1	23/16/16 2) :z)	23/19/16 1) :29	PB)) 9(z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-(4-(	BenQo&g,h,iHperylene	39.9	U	16.(	39.9	422	ug/Kg
9z-94-3	1,(,4,z-TetrachlorobenQene	39.9	U	1z.0	39.9	422	ug/Kg
z) -92-(	(,3,4,6-Tetrachlorophenol	39.9	U	1z.0	39.9	422	ug/Kg
SURROGATES							
360-1(-4	(-Fluorophenol	142		( ) - 1(0		9(%	SPK: 1z2
131(0-)) -3	Phenol-d6	142		34 - 1(0		94%	SPK: 1z2
416z-62-2	NitrobenQene-dz	92.(		31 - 13(		92%	SPK: 122
3(1-62-)	(-Fluorobiphenyl	) 4		39 - 1(3		) 4%	SPK: 122
11) -09-6	(,4,6-Tribromophenol	1(2		32 - 133		) 1%	SPK: 1z2
101) -z1-2	Terphenyl-d14	96.4		30 - 11z		96%	SPK: 122
INTERNAL STANDARDS							
3) zz-) (-1	1,4-DichlorobenQene-d4	1103) 0	6.) z				
1146-6z-(	Naphthalene-d)	4) 0040	) .14				
1z260-(6-(	Acenaphthene-d12	(1(034	9.) 9				
1z10-((-(	Phenanthrene-d12	423233	11.30				
1019-23-z	Chrysene-d1(	(z39) 4	14				
1z(2-96-3	Perylene-d1(	(223z9	1z.43				
TENTATIVE IDENTIFIED COMPOUNDS							
2221(3-4(-(	(-Pentanone, 4-hydroxy-4-methyl-	1z2	A			z.2z	ug/Kg
26((3) -11-3	Decane, (,3,z-trimethyl-	) 9.z	J			12.3(	ug/Kg
2226(9-9(-z	Nonadecane	1(2	J			12.09	ug/Kg
2222z0-12-3	n-7 exadecanoic acid	102	J			11.9	ug/Kg
2190) 2-33-0	(-Ethyl-1-dodecanol	(42	J			13.) z	ug/Kg

U = Not Detected
LO5 = Limit of 5 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
5 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of 5 C limits
D = Dilution
8H= Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH3) 2	% Moisture:	9.3
Sample Wt/Vol:	(2.29 Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2HzzH2.D	1	2(/16/16 2HzH	2(/19/16 1H( )	PBHH93z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
122-z3-)	BenQaldehyde	(6.6	U	19.1	(6.6	(62	ug/Kg
12H-9z-3	Phenol	(6.6	U	Hz	(6.6	(62	ug/Kg
111-44-4	bis83-Chloroethyl7ether	(6.6	U	1) .6	(6.6	(62	ug/Kg
9z-z) -H	3-Chlorophenol	(6.6	U	19.(	(6.6	(62	ug/Kg
9z-4H-)	3-Methylphenol	(6.6	U	19.9	(6.6	(62	ug/Kg
12H-62-1	3,3-oxybis81-Chloropropane7	(6.6	U	1z.3	(6.6	(62	ug/Kg
9H-H6-3	Acetophenone	(6.6	U	11.3	(6.6	(62	ug/Kg
6z) 94-96-9	(+4-Methylphenols	(6.6	U	19	(6.6	(62	ug/Kg
631-64-)	n-Nitroso-di-n-propylamine	(6.6	U	1H4	(6.6	(62	ug/Kg
6) -) 3-1	0 exachloroethane	(6.6	U	16.4	(6.6	(62	ug/Kg
9H-9z-(	NitrobenQene	(6.6	U	1(.H	(6.6	(62	ug/Kg
) H-z9-1	Isophorone	(6.6	U	13.1	(6.6	(62	ug/Kg
HH-) z-z	3-Nitrophenol	(6.6	U	1) .)	(6.6	(62	ug/Kg
12z-6) -9	3,4-Dimethylphenol	(6.6	U	32.H	(6.6	(62	ug/Kg
111-91-1	bis83-Chloroethoxy7methane	(6.6	U	31.1	(6.6	(62	ug/Kg
132-H(-3	3,4-Dichlorophenol	(6.6	U	1(.9	(6.6	(62	ug/Kg
91-32-(	Naphthalene	(6.6	U	13.6	(6.6	(62	ug/Kg
126-4) -H	4-Chloroaniline	(6.6	U	3z.H	(6.6	(62	ug/Kg
H) -6H-(	0 exachlorobutadiene	(6.6	U	1(.(	(6.6	(62	ug/Kg
12z-62-3	Caprolactam	) (.3	U	1)	) (.3	(62	ug/Kg
z9-z2-)	4-Chloro-(-methylphenol	(6.6	U	16.(	(6.6	(62	ug/Kg
91-z) -6	3-Methylnaphthalene	(6.6	U	9.3	(6.6	(62	ug/Kg
)) -4) -4	0 exachlorocyclopentadiene	(6.6	U	H9	(6.6	(62	ug/Kg
HH-26-3	3,4,6-Trichlorophenol	(6.6	U	11.3	(6.6	(62	ug/Kg
9z-9z-4	3,4,z-Trichlorophenol	(6.6	U	3z.)	(6.6	(62	ug/Kg
93-z3-4	1,1-Biphenyl	(6.6	U	1(.H	(6.6	(62	ug/Kg
91-zH-)	3-Chloronaphthalene	(6.6	U	H(	(6.6	(62	ug/Kg
HH-) 4-4	3-Nitroaniline	(6.6	U	16.(	(6.6	(62	ug/Kg
1(1-11-(	Dimethylphthalate	6H2		9.9	(6.6	(62	ug/Kg
32H-96-H	Acenaphthylene	(6.6	U	9.3	(6.6	(62	ug/Kg
626-32-3	3,6-Dinitrotoluene	(6.6	U	14.9	(6.6	(62	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH3) 2	% Moisture:	9.3
Sample Wt/Vol:	(2.29 Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2HzzH2.D	1	2(/16/16 2HzH	2(/19/16 1H( )	PBHH93z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-29-3	(-Nitroaniline	) (.3	U	3(.z	) (.3	(62	ug/Kg
H(-(3-9	Acenaphthene	(6.6	U	12.(	(6.6	(62	ug/Kg
z1-3H-z	3,4-Dinitrophenol	392	U	( ) .3	392	(62	ug/Kg
122-23-)	4-Nitrophenol	1H2	U	6H	1H2	(62	ug/Kg
1(3-64-9	DibenQofuran	(6.6	U	14.(	(6.6	(62	ug/Kg
131-14-3	3,4-Dinitrotoluene	(6.6	U	11	(6.6	(62	ug/Kg
H4-66-3	Diethylphthalate	(6.6	U	z.)	(6.6	(62	ug/Kg
) 22z-) 3-(	4-Chlorophenyl-phenylether	(6.6	U	19.9	(6.6	(62	ug/Kg
H6-) (-)	Fluorene	(6.6	U	1(.H	(6.6	(62	ug/Kg
122-21-6	4-Nitroaniline	) (.3	U	4) .)	) (.3	(62	ug/Kg
z(4-z3-1	4,6-Dinitro-3-methylphenol	1H2	U	31	1H2	(62	ug/Kg
H6-(2-6	n-Nitrosodiphenylamine	(6.6	U	HH	(6.6	(62	ug/Kg
121-zz-(	4-Bromophenyl-phenylether	(6.6	U	) .1	(6.6	(62	ug/Kg
11H-) 4-1	0 exachlorobenQene	(6.6	U	14.9	(6.6	(62	ug/Kg
1913-34-9	AtraQine	(6.6	U	19.(	(6.6	(62	ug/Kg
H) -H6-z	Pentachlorophenol	(6.6	U	3z	(6.6	(62	ug/Kg
Hz-21-H	Phenanthrene	(6.6	U	9.9	(6.6	(62	ug/Kg
132-13-)	Anthracene	(6.6	U	) .z	(6.6	(62	ug/Kg
H6-) 4-H	CarbaQole	(6.6	U	H	(6.6	(62	ug/Kg
H4-) 4-3	Di-n-butylphthalate	(6.6	U	3HH	(6.6	(62	ug/Kg
326-44-2	Fluoranthene	(6.6	U	) .4	(6.6	(62	ug/Kg
139-22-2	Pyrene	(6.6	U	HH	(6.6	(62	ug/Kg
Hz-6H-)	ButylbenQylphthalate	(6.6	U	1) .6	(6.6	(62	ug/Kg
91-94-1	(,(-DichlorobenQidine	(6.6	U	3(.z	(6.6	(62	ug/Kg
z6-zz-(	BenQo&a7anthracene	(6.6	U	1) .z	(6.6	(62	ug/Kg
31H-21-9	Chrysene	(6.6	U	16.6	(6.6	(62	ug/Kg
11) -H1 -)	Bis83-ethylhexyl7phthalate	(6.6	U	1(	(6.6	(62	ug/Kg
11) -H4-2	Di-n-octyl phthalate	(6.6	U5	4.3	(6.6	(62	ug/Kg
32z-99-3	BenQo&b7fluoranthene	(6.6	U	13	(6.6	(62	ug/Kg
32) -2H-9	BenQo&k7fluoranthene	(6.6	U	1) .3	(6.6	(62	ug/Kg
z2-(3-H	BenQo&a7pyrene	(6.6	U	) .9	(6.6	(62	ug/Kg
19(-(9-z	Indeno81,3,(-cd7pyrene	(6.6	U	13.3	(6.6	(62	ug/Kg
z(-) 2-(	DibenQo&a,h7anthracene	(6.6	U	12.z	(6.6	(62	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH3) 2	% Moisture:	9.3
Sample Wt/Vol:	(2.29 Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/5 c Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF2HzzH2.D	1	2(/16/16 2HzH	2(/19/16 1H( )	PBHH93z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-34-3	Benzo[g,h,i]perylene	(6.6	U	14.H	(6.6	(62	ug/Kg
9z-94-(	1,3,4,z-Tetrachlorobenzene	(6.6	U	14.4	(6.6	(62	ug/Kg
zH-92-3	3,(,4,6-Tetrachlorophenol	(6.6	U	14.4	(6.6	(62	ug/Kg
SURROGATES							
(6) -13-4	3-Fluorophenol	162		3H- 13)		112%	SPK: 1z2
1(13) -HH-(	Phenol-d6	162		(4 - 13)		124%	SPK: 1z2
416z-62-2	Nitrobenzene-dz	96.z		(1 - 1(3		96%	SPK: 122
(31-62-H	3-Fluorobiphenyl	112		(9 - 13(		12) %	SPK: 122
11H-) 9-6	3,4,6-Tribromophenol	1H2		(2 - 1((		131%	SPK: 1z2
1) 1H-z1-2	Terphenyl-d14	112		( ) - 11z		12H%	SPK: 122
INTERNAL STANDARDS							
(Hzz-H3-1	1,4-Dichlorobenzene-d4	1339(3	6.Hz				
1146-6z-3	Naphthalene-dH	z(3H14	H14				
1z26) -36-3	Acenaphthene-d12	3(341H	9.H9				
1z1) -33-3	Phenanthrene-d12	4z49) 6	11.( )				
1) 19-2(-z	Chrysene-d13	(2H) (9	14				
1z32-96-(	Perylene-d13	3(2(z3	1z.4(				
TENTATIVE IDENTIFIED COMPOUNDS							
22213(-43-3	3-Pentanone, 4-hydroxy-4-methyl-	9) .)	A			z.26	ug/Kg
222639-) H-)	0 eptadecane	122	J			12.(3	ug/Kg
222639-94-)	0 eneicosane	1(2	J			12.) 9	ug/Kg
2222z) -12-(	n-0 exadecanoic acid	162	J			11.9	ug/Kg
2269) 1-42-2	1) -Pentatriacontene	422	J			1(.Hz	ug/Kg
2226(2-23-4	Octacosane	9(	J			14.1)	ug/Kg
21416) -z9-2	Tetratriacontane	) 9.1	J			14.4H	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	2(/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	2(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-2(	Matrix:	SOIL
Analytical Method:	SWH3) 2	% Moisture:	9.3
Sample Wt/Vol:	(2.29 Units: g	Final Vol:	1222 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/5 c Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
BF2HzzH2.D	1	2(/16/16 2HzH	2(/19/16 1H( )	PBHH93z

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LO5 = Limit of 5 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
5 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of 5 C limits
D = Dilution
87= Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-4(7-8)	SDG No.:	H1788
Lab Sample ID:	H1788-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	11.5
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085581.D	1	03/16/16 08:58	03/19/16 19:04	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	37.6	U	19.6	37.6	370	ug/Kg
108-95-2	Phenol	37.6	U	8.7	37.6	370	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	37.6	U	18.1	37.6	370	ug/Kg
95-57-8	2-Chlorophenol	37.6	U	19.9	37.6	370	ug/Kg
95-48-7	2-Methylphenol	37.6	U	20.4	37.6	370	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	37.6	U	15.6	37.6	370	ug/Kg
98-86-2	Acetophenone	37.6	U	11.5	37.6	370	ug/Kg
65794-96-9	3+4-Methylphenols	37.6	U	19.5	37.6	370	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	37.6	U	19	37.6	370	ug/Kg
67-72-1	Hexachloroethane	37.6	U	16.8	37.6	370	ug/Kg
98-95-3	Nitrobenzene	37.6	U	14.2	37.6	370	ug/Kg
78-59-1	Isophorone	37.6	U	12.4	37.6	370	ug/Kg
88-75-5	2-Nitrophenol	37.6	U	18.2	37.6	370	ug/Kg
105-67-9	2,4-Dimethylphenol	37.6	U	21.3	37.6	370	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	37.6	U	21.7	37.6	370	ug/Kg
120-83-2	2,4-Dichlorophenol	37.6	U	14.3	37.6	370	ug/Kg
91-20-3	Naphthalene	37.6	U	13	37.6	370	ug/Kg
106-47-8	4-Chloroaniline	37.6	U	26.5	37.6	370	ug/Kg
87-68-3	Hexachlorobutadiene	37.6	U	13.7	37.6	370	ug/Kg
105-60-2	Caprolactam	75.3	U	17.5	75.3	370	ug/Kg
59-50-7	4-Chloro-3-methylphenol	37.6	U	16.7	37.6	370	ug/Kg
91-57-6	2-Methylnaphthalene	37.6	U	9.5	37.6	370	ug/Kg
77-47-4	Hexachlorocyclopentadiene	37.6	U	9.1	37.6	370	ug/Kg
88-06-2	2,4,6-Trichlorophenol	37.6	U	11.5	37.6	370	ug/Kg
95-95-4	2,4,5-Trichlorophenol	37.6	U	26.4	37.6	370	ug/Kg
92-52-4	1,1-Biphenyl	37.6	U	14.2	37.6	370	ug/Kg
91-58-7	2-Chloronaphthalene	37.6	U	8.6	37.6	370	ug/Kg
88-74-4	2-Nitroaniline	37.6	U	16.7	37.6	370	ug/Kg
131-11-3	Dimethylphthalate	410		10.2	37.6	370	ug/Kg
208-96-8	Acenaphthylene	37.6	U	9.5	37.6	370	ug/Kg
606-20-2	2,6-Dinitrotoluene	37.6	U	15.4	37.6	370	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-4(7-8)	SDG No.:	H1788
Lab Sample ID:	H1788-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	11.5
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085581.D	1	03/16/16 08:58	03/19/16 19:04	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	75.3	U	24.2	75.3	370	ug/Kg
83-32-9	Acenaphthene	37.6	U	10.6	37.6	370	ug/Kg
51-28-5	2,4-Dinitrophenol	300	U	38.3	300	370	ug/Kg
100-02-7	4-Nitrophenol	190	U	69.9	190	370	ug/Kg
132-64-9	Dibenzofuran	37.6	U	14.7	37.6	370	ug/Kg
121-14-2	2,4-Dinitrotoluene	37.6	U	11.3	37.6	370	ug/Kg
84-66-2	Diethylphthalate	37.6	U	5.9	37.6	370	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	37.6	U	20.4	37.6	370	ug/Kg
86-73-7	Fluorene	37.6	U	14.2	37.6	370	ug/Kg
100-01-6	4-Nitroaniline	75.3	U	49	75.3	370	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	190	U	21.6	190	370	ug/Kg
86-30-6	n-Nitrosodiphenylamine	37.6	U	9	37.6	370	ug/Kg
101-55-3	4-Bromophenyl-phenylether	37.6	U	7.3	37.6	370	ug/Kg
118-74-1	Hexachlorobenzene	37.6	U	15.4	37.6	370	ug/Kg
1912-24-9	Atrazine	37.6	U	19.9	37.6	370	ug/Kg
87-86-5	Pentachlorophenol	37.6	U	25.7	37.6	370	ug/Kg
85-01-8	Phenanthrene	37.6	U	10.2	37.6	370	ug/Kg
120-12-7	Anthracene	37.6	U	7.7	37.6	370	ug/Kg
86-74-8	Carbazole	37.6	U	8.2	37.6	370	ug/Kg
84-74-2	Di-n-butylphthalate	37.6	U	29.6	37.6	370	ug/Kg
206-44-0	Fluoranthene	37.6	U	7.6	37.6	370	ug/Kg
129-00-0	Pyrene	37.6	U	9	37.6	370	ug/Kg
85-68-7	Butylbenzylphthalate	37.6	U	18.1	37.6	370	ug/Kg
91-94-1	3,3-Dichlorobenzidine	37.6	U	24.2	37.6	370	ug/Kg
56-55-3	Benzo(a)anthracene	37.6	U	18	37.6	370	ug/Kg
218-01-9	Chrysene	37.6	U	17.1	37.6	370	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	37.6	U	13.3	37.6	370	ug/Kg
117-84-0	Di-n-octyl phthalate	37.6	UQ	4.3	37.6	370	ug/Kg
205-99-2	Benzo(b)fluoranthene	37.6	U	12.3	37.6	370	ug/Kg
207-08-9	Benzo(k)fluoranthene	37.6	U	17.7	37.6	370	ug/Kg
50-32-8	Benzo(a)pyrene	37.6	U	8.1	37.6	370	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	37.6	U	12.5	37.6	370	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	37.6	U	10.8	37.6	370	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-4(7-8)	SDG No.:	H1788
Lab Sample ID:	H1788-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	11.5
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085581.D	1	03/16/16 08:58	03/19/16 19:04	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	37.6	U	15.2	37.6	370	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	37.6	U	14.8	37.6	370	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	37.6	U	14.8	37.6	370	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	110		28 - 127		72%	SPK: 150
13127-88-3	Phenol-d6	110		34 - 127		73%	SPK: 150
4165-60-0	Nitrobenzene-d5	81.3		31 - 132		81%	SPK: 100
321-60-8	2-Fluorobiphenyl	81.1		39 - 123		81%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		30 - 133		71%	SPK: 150
1718-51-0	Terphenyl-d14	98.7		37 - 115		99%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	126588	6.85				
1146-65-2	Naphthalene-d8	523954	8.14				
15067-26-2	Acenaphthene-d10	230384	9.89				
1517-22-2	Phenanthrene-d10	454015	11.37				
1719-03-5	Chrysene-d12	294098	14				
1520-96-3	Perylene-d12	228238	15.43				
TENTATIVE IDENTIFIED COMPOUNDS							
000629-78-7	Heptadecane	93	J			10.32	ug/Kg
000629-62-9	Pentadecane	120	J			10.79	ug/Kg
	unknown12.78	96.4	J			12.78	ug/Kg
000301-02-0	9-Octadecenamide, (Z)-	800	J			13.44	ug/Kg
000629-54-9	Hexadecanamide	84.7	J			13.51	ug/Kg
074339-53-0	Trichloroacetic acid, pentadecyl e	200	J			13.85	ug/Kg

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	17.3
Sample Wt/Vol:	30.1 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085582.D	1	03/16/16 08:58	03/19/16 19:32	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	40.2	U	21	40.2	400	ug/Kg
108-95-2	Phenol	40.2	U	9.3	40.2	400	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	40.2	U	19.3	40.2	400	ug/Kg
95-57-8	2-Chlorophenol	40.2	U	21.2	40.2	400	ug/Kg
95-48-7	2-Methylphenol	40.2	U	21.8	40.2	400	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	40.2	U	16.6	40.2	400	ug/Kg
98-86-2	Acetophenone	40.2	U	12.3	40.2	400	ug/Kg
65794-96-9	3+4-Methylphenols	40.2	U	20.8	40.2	400	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	40.2	U	20.2	40.2	400	ug/Kg
67-72-1	Hexachloroethane	40.2	U	18	40.2	400	ug/Kg
98-95-3	Nitrobenzene	40.2	U	15.2	40.2	400	ug/Kg
78-59-1	Isophorone	40.2	U	13.3	40.2	400	ug/Kg
88-75-5	2-Nitrophenol	40.2	U	19.4	40.2	400	ug/Kg
105-67-9	2,4-Dimethylphenol	40.2	U	22.8	40.2	400	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	40.2	U	23.1	40.2	400	ug/Kg
120-83-2	2,4-Dichlorophenol	40.2	U	15.3	40.2	400	ug/Kg
91-20-3	Naphthalene	40.2	U	13.9	40.2	400	ug/Kg
106-47-8	4-Chloroaniline	40.2	U	28.3	40.2	400	ug/Kg
87-68-3	Hexachlorobutadiene	40.2	U	14.6	40.2	400	ug/Kg
105-60-2	Caprolactam	80.3	U	18.7	80.3	400	ug/Kg
59-50-7	4-Chloro-3-methylphenol	40.2	U	17.8	40.2	400	ug/Kg
91-57-6	2-Methylnaphthalene	40.2	U	10.1	40.2	400	ug/Kg
77-47-4	Hexachlorocyclopentadiene	40.2	U	9.8	40.2	400	ug/Kg
88-06-2	2,4,6-Trichlorophenol	40.2	U	12.3	40.2	400	ug/Kg
95-95-4	2,4,5-Trichlorophenol	40.2	U	28.2	40.2	400	ug/Kg
92-52-4	1,1-Biphenyl	40.2	U	15.2	40.2	400	ug/Kg
91-58-7	2-Chloronaphthalene	40.2	U	9.2	40.2	400	ug/Kg
88-74-4	2-Nitroaniline	40.2	U	17.8	40.2	400	ug/Kg
131-11-3	Dimethylphthalate	570		10.8	40.2	400	ug/Kg
208-96-8	Acenaphthylene	40.2	U	10.1	40.2	400	ug/Kg
606-20-2	2,6-Dinitrotoluene	40.2	U	16.4	40.2	400	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	17.3
Sample Wt/Vol:	30.1 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085582.D	1	03/16/16 08:58	03/19/16 19:32	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	80.3	U	25.8	80.3	400	ug/Kg
83-32-9	Acenaphthene	40.2	U	11.3	40.2	400	ug/Kg
51-28-5	2,4-Dinitrophenol	320	U	40.9	320	400	ug/Kg
100-02-7	4-Nitrophenol	200	U	74.6	200	400	ug/Kg
132-64-9	Dibenzofuran	40.2	U	15.7	40.2	400	ug/Kg
121-14-2	2,4-Dinitrotoluene	40.2	U	12.1	40.2	400	ug/Kg
84-66-2	Diethylphthalate	40.2	U	6.3	40.2	400	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	40.2	U	21.8	40.2	400	ug/Kg
86-73-7	Fluorene	40.2	U	15.2	40.2	400	ug/Kg
100-01-6	4-Nitroaniline	80.3	U	52.3	80.3	400	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	200	U	23	200	400	ug/Kg
86-30-6	n-Nitrosodiphenylamine	40.2	U	9.6	40.2	400	ug/Kg
101-55-3	4-Bromophenyl-phenylether	40.2	U	7.8	40.2	400	ug/Kg
118-74-1	Hexachlorobenzene	40.2	U	16.4	40.2	400	ug/Kg
1912-24-9	Atrazine	40.2	U	21.2	40.2	400	ug/Kg
87-86-5	Pentachlorophenol	40.2	U	27.5	40.2	400	ug/Kg
85-01-8	Phenanthrene	40.2	U	10.8	40.2	400	ug/Kg
120-12-7	Anthracene	40.2	U	8.2	40.2	400	ug/Kg
86-74-8	Carbazole	40.2	U	8.8	40.2	400	ug/Kg
84-74-2	Di-n-butylphthalate	40.2	U	31.6	40.2	400	ug/Kg
206-44-0	Fluoranthene	40.2	U	8.1	40.2	400	ug/Kg
129-00-0	Pyrene	40.2	U	9.6	40.2	400	ug/Kg
85-68-7	Butylbenzylphthalate	40.2	U	19.3	40.2	400	ug/Kg
91-94-1	3,3-Dichlorobenzidine	40.2	U	25.8	40.2	400	ug/Kg
56-55-3	Benzo(a)anthracene	40.2	U	19.2	40.2	400	ug/Kg
218-01-9	Chrysene	40.2	U	18.2	40.2	400	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	190	J	14.2	40.2	400	ug/Kg
117-84-0	Di-n-octyl phthalate	40.2	UQ	4.6	40.2	400	ug/Kg
205-99-2	Benzo(b)fluoranthene	40.2	U	13.1	40.2	400	ug/Kg
207-08-9	Benzo(k)fluoranthene	40.2	U	18.9	40.2	400	ug/Kg
50-32-8	Benzo(a)pyrene	40.2	U	8.7	40.2	400	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	40.2	U	13.4	40.2	400	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	40.2	U	11.6	40.2	400	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	17.3
Sample Wt/Vol:	30.1 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085582.D	1	03/16/16 08:58	03/19/16 19:32	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	40.2	U	16.3	40.2	400	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	40.2	U	15.8	40.2	400	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	40.2	U	15.8	40.2	400	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	110		28 - 127		76%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		85%	SPK: 150
4165-60-0	Nitrobenzene-d5	82.1		31 - 132		82%	SPK: 100
321-60-8	2-Fluorobiphenyl	76.5		39 - 123		76%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		30 - 133		70%	SPK: 150
1718-51-0	Terphenyl-d14	76.2		37 - 115		76%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	122467	6.85				
1146-65-2	Naphthalene-d8	516151	8.14				
15067-26-2	Acenaphthene-d10	209864	9.89				
1517-22-2	Phenanthrene-d10	385352	11.37				
1719-03-5	Chrysene-d12	233660	14				
1520-96-3	Perylene-d12	232701	15.43				
TENTATIVE IDENTIFIED COMPOUNDS							
	unknown6.62	3000	J			6.62	ug/Kg
000629-59-4	Tetradecane	110	J			10.32	ug/Kg
003892-00-0	Pentadecane, 2,6,10-trimethyl-	84	J			10.54	ug/Kg
000629-92-5	Nonadecane	170	J			10.79	ug/Kg
000638-53-9	Tridecanoic acid	81.6	J			11.9	ug/Kg
1000282-97-3	Heptafluorobutanoic acid, heptadec	110	J			13.87	ug/Kg
1000188-72-8	2,2,6-Trimethyl-1-(2-methyl-cyclob	140	J			15.57	ug/Kg
053584-60-4	28-Nor-17.alpha.(H)-hopane	220	J			16.11	ug/Kg
1000285-40-2	.beta.-iso-Methyl ionone	180	J			16.52	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	17.3
Sample Wt/Vol:	30.1 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085582.D	1	03/16/16 08:58	03/19/16 19:32	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	08/17/11
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	08/12/11
Client Sample ID:	BW-1	SDG No.:	51600
Lab Sample ID:	51600-01	Matrix:	Water
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	990 Qnits: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Type :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup : N	P5 :

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6F00000.D	1	08/10/11 09:80	08/19/11 02:02	P600929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
100-02-7	6 en4aldehyde	1	Q	0.60	1	10.1	ug/L
108-95-2	Phenol	1	Q	0.71	1	10.1	ug/L
111-22-2	bisf7-ChloroethylJether	1	Q	0.08	1	10.1	ug/L
95-57-8	7-Chlorophenol	1	Q	0.00	1	10.1	ug/L
95-48-7	7-Methylphenol	1	Q	0.72	1	10.1	ug/L
108-60-1	7,7-oxybisf1-ChloropropaneJ	1	Q	0.16	1	10.1	ug/L
98-86-2	Acetophenone	1	Q	0.12	1	10.1	ug/L
65794-96-9	8+2-Methylphenols	1	Q	0.80	1	10.1	ug/L
621-64-7	n-Nitroso-di-n-propylamine	1	Q	0.7	1	10.1	ug/L
67-72-1	5 exachloroethane	1	Q	0.70	1	10.1	ug/L
98-95-3	Nitroben4ene	1	Q	0.49	1	10.1	ug/L
78-59-1	Isophorone	1	Q	0.8	1	10.1	ug/L
88-75-5	7-Nitrophenol	1	Q	0.08	1	10.1	ug/L
105-67-9	7,2-Dimethylphenol	1	Q	0.67	1	10.1	ug/L
111-91-1	bisf7-ChloroethoxyJmethane	1	Q	0.08	1	10.1	ug/L
120-83-2	7,2-Dichlorophenol	1	Q	0.46	1	10.1	ug/L
91-20-3	Naphthalene	1	Q	0.17	1	10.1	ug/L
106-47-8	2-Chloroaniline	1	Q	1	1	10.1	ug/L
87-68-3	5 exachlorobutadiene	1	Q	0.70	1	10.1	ug/L
105-60-2	Caprolactam	1	Q	1	1	10.1	ug/L
59-50-7	2-Chloro-8-methylphenol	1	Q	0.2	1	10.1	ug/L
91-57-6	7-Methylnaphthalene	1	Q	0.87	1	10.1	ug/L
77-47-4	5 exachlorocyclopentadiene	1	Q	0.72	1	10.1	ug/L
88-06-2	7,2,4-Brichlorophenol	1	Q	0.06	1	10.1	ug/L
95-95-4	7,2,5-Brichlorophenol	1	Q	0.2	1	10.1	ug/L
92-52-4	1,1-6 iphenyl	1	Q	0.10	1	10.1	ug/L
91-58-7	7-Chloronaphthalene	1	Q	0.14	1	10.1	ug/L
88-74-4	7-Nitroaniline	1	Q	0.29	1	10.1	ug/L
131-11-3	Dimethylphthalate	1	Q	0.77	1	10.1	ug/L
208-96-8	Acenaphthylene	1	Q	0.61	1	10.1	ug/L
606-20-2	7,4-Dinitrotoluene	1	Q	0.87	1	10.1	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	08/17/11
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	08/12/11
Client Sample ID:	BW-1	SDG No.:	51600
Lab Sample ID:	51600-01	Matrix:	Water
Analytical Method:	SW8270	% Moisture:	100
Sample Wt/Vol:	990 Qnits: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Type :	Decanted : N	Level :	Low
Injection Volume :	GPC Factor : 1.0	GPC Cleanup : N	P5 :

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analyzed	Prep 6 atch ID
6F0000.D	1	08/10/11 09:80	08/19/11 02:20	P600929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-09-7	8-Nitroaniline	1	Q	1	1	10.1	ug/L
08-87-9	Acenaphthene	1	Q	0.71	1	10.1	ug/L
01-70-0	7,2-Dinitrophenol	0.1	Q	7.1	0.1	10.1	ug/L
100-07-6	2-Nitrophenol	0.1	Q	7	0.1	10.1	ug/L
187-H2-9	Dibenzofuran	1	Q	0.72	1	10.1	ug/L
171-12-7	7,2-Dinitrotoluene	1	Q	1	1	10.1	ug/L
02-HH-7	Diethylphthalate	1	Q	0.80	1	10.1	ug/L
00 0-(7-8	2-Chlorophenyl-phenylether	1	Q	0.71	1	10.1	ug/L
0H-(8-(	Fluorene	1	Q	0.81	1	10.1	ug/L
100-01-H	2-Nitroaniline	7	Q	1.2	7	10.1	ug/L
082-07-1	2,H-Dinitro-7-methylphenol	7	Q	0.(0	7	10.1	ug/L
0H-80-H	n-Nitrosodiphenylamine	1	Q	0.H1	1	10.1	ug/L
101-00-8	2-6romophenyl-phenylether	1	Q	0.78	1	10.1	ug/L
110-(2-1	5exachloroben4ene	1	Q	0.10	1	10.1	ug/L
1917-72-9	Atra4ine	1	Q	0.2	1	10.1	ug/L
0(-0H-0	Pentachlorophenol	1	Q	1	1	10.1	ug/L
00-01-0	Phenanthrene	1	Q	0.7H	1	10.1	ug/L
170-17-(	Anthracene	1	Q	0.1H	1	10.1	ug/L
0H-(2-0	Carba4ole	1	Q	0.77	1	10.1	ug/L
02-(2-7	Di-n-butylphthalate	1	Q	1	1	10.1	ug/L
70H-22-0	Fluoranthene	1	Q	0.2	1	10.1	ug/L
179-00-0	Pyrene	1	Q	0.7	1	10.1	ug/L
00-H0-(	6utylben4ylphthalate	1	Q	0.19	1	10.1	ug/L
91-92-1	8,8-Dichloroben4idine	1	Q	1	1	10.1	ug/L
0H-00-8	6en4ofaJanthracene	1	Q	0.1H	1	10.1	ug/L
710-01-9	Chrysene	1	Q	0.10	1	10.1	ug/L
11(-01-(	6isf7-ethylhexylJphthalate	1	Q	0.1H	1	10.1	ug/L
11(-02-0	Di-n-octyl phthalate	1	Q	0.07	1	10.1	ug/L
70-99-7	6en4ofbJfluoranthene	1	Q	0.79	1	10.1	ug/L
70(-)0-9	6en4ofkJfluoranthene	1	Q	0.10	1	10.1	ug/L
0)-87-0	6en4ofaJpyrene	1	Q	0.12	1	10.1	ug/L
198-89-0	Indenof1,7,8-cdJpyrene	1	Q	0.10	1	10.1	ug/L
08-(0-8	Diben4ofa,hJanthracene	1	Q	0.27	1	10.1	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) 8/17/1H
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) 8/12/1H
Client Sample ID:	BW-1	SDG No.:	5 1(00
Lab Sample ID:	5 1(00-) H	Matrix:	Water
Analytical Method:	SW07( )	% Moisture:	1))
Sample Wt/Vol:	99) Qnits: mL	Final Vol:	1))) uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Bype :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P5 :

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 F) 0OOOO.D	1	) 8/1(/1H) 9:8)	) 8/19/1H) O.2)	P6 00929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-72-7	6 en4ofg,h,iJperylene	1	Q	) .79	1	1) .1	ug/L
9O-92-8	1,7,2,O-Betrachloroben4ene	1	Q	) .7	1	1) .1	ug/L
O0-9) -7	7,8,2,H-Betrachlorophenol	1	Q	) .7	1	1) .1	ug/L
SURROGATES							
8H(-17-2	7-Fluorophenol	O0.O		1) - 18)		89%	SPK: 1O)
1817(-00-8	Phenol-dH	8HO		1) - 18)		72%	SPK: 1O)
21HO-H) -)	Nitroben4ene-dO	0(.2		8H- 181		0(%	SPK: 1))
871-H) -0	7-Fluorobiphenyl	9(.7		89 - 181		9(%	SPK: 1))
110-(9-H	7,2,H-Bribromophenol	1O)		7O- 1OO		1) 1%	SPK: 1O)
1(10-Ol -)	Berphenyl-d12	08.(		78 - 18)		02%	SPK: 1))
INTERNAL STANDARDS							
80OO-07-1	1,2-Dichloroben4ene-d2	17H(98	H0O				
112H-HO-7	Naphthalene-d0	O81(O8	0.12				
1O) H(-7H-7	Acenaphthene-d1)	7812) 2	9.09				
1Ol (-77-7	Phenanthrene-d1)	2H( ) O9	11.8(				
1(19-) 8-O	Chrysene-d17	8(H-927	12				
1O7) -9H-8	Perylene-d17	81O(09	1O.28				
TENTATIVE IDENTIFIED COMPOUNDS							
	unknownHH7	(1.(	T6			HH7	ug/L

Q = Not Detected
Lz 3 = Limit oU3 uantitation
MDL = Method Detection Limit
Lz D = Limit oUDetection
E = Value Exceeds Calibration Range
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
6 = Analyte Found in Associated Method 6 lank
N = Presumptive Evidence oUa Compound
* = Values outside oU3 C limits
D = Dilution
fJ = Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H7/15/18
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H7/12/18
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H0	Matrix:	Water
Analytical Method:	SW) 50H	% Moisture:	1HH
Sample Wt/Vol:	90H Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVQCMS Group1
Extraction Bype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) zzz8.D	1	H7/10/18 H9:7H	H7/19/18 H8:H0	P6)) 929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1HH-z5-0	6 en4aldehyde	1	O	H09	1	1H7	ug/L
1H) -9z-5	Phenol	1	O	H55	1	1H7	ug/L
111-22-2	bisf5-ChloroethylJether	1	O	Hz0	1	1H7	ug/L
9z-z0-)	5-Chlorophenol	1	O	Hz8	1	1H7	ug/L
9z-2) -0	5-Methylphenol	1	O	H5z	1	1H7	ug/L
1H) -8H-1	5,5-oxybisf1-ChloropropaneJ	1	O	H1)	1	1H7	ug/L
9) -) 8-5	Acetophenone	1	O	H12	1	1H7	ug/L
8z092-98-9	7+2-Methylphenols	1	O	H79	1	1H7	ug/L
851-82-0	n-Nitroso-di-n-propylamine	1	O	H51	1	1H7	ug/L
80-05-1	(exachloroethane	1	O	H58	1	1H7	ug/L
9) -9z-7	Nitroben4ene	1	O	H0	1	1H7	ug/L
0) -z9-1	Isophorone	1	O	H71	1	1H7	ug/L
)) -0z-z	5-Nitrophenol	1	O	Hz2	1	1H7	ug/L
1Hz-80-9	5,2-Dimethylphenol	1	O	H07	1	1H7	ug/L
111-91-1	bisf5-ChloroethoxyJmethane	1	O	Hz0	1	1H7	ug/L
15H-) 7-5	5,2-Dichlorophenol	1	O	H8)	1	1H7	ug/L
91-5H-7	Naphthalene	1	O	H15	1	1H7	ug/L
1H8-20-)	2-Chloroaniline	1	O	1	1	1H7	ug/L
) 0-8) -7	(exachlorobutadiene	1	O	H58	1	1H7	ug/L
1Hz-8H-5	Caprolactam	1	O	1	1	1H7	ug/L
z9-zH-0	2-Chloro-7-methylphenol	1	O	H21	1	1H7	ug/L
91-z0-8	5-Methylnaphthalene	1	O	H77	1	1H7	ug/L
00-20-2	(exachlorocyclopentadiene	1	O	H5z	1	1H7	ug/L
)) -H8-5	5,2,8-Brichlorophenol	1	O	Hz)	1	1H7	ug/L
9z-9z-2	5,2,z-Brichlorophenol	1	O	H21	1	1H7	ug/L
95-z5-2	1,1-6 iphenyl	1	O	H1z	1	1H7	ug/L
91-z) -0	5-Chloronaphthalene	1	O	H18	1	1H7	ug/L
)) -02-2	5-Nitroaniline	1	O	Hz1	1	1H7	ug/L
171-11-7	Dimethylphthalate	1	O	H57	1	1H7	ug/L
5H) -98-)	Acenaphthylene	1	O	H05	1	1H7	ug/L
8H8-5H-5	5,8-Dinitrotoluene	1	O	H77	1	1H7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H7/15/18
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H7/12/18
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H0	Matrix:	Water
Analytical Method:	SW) 50H	% Moisture:	1HH
Sample Wt/Vol:	90H Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVQCMS Group1
Extraction Bype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) zzz8.D	1	H7/10/18 H9:7H	H7/19/18 H8:H0	P6)) 929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-H9-5	7-Nitroaniline	1	O	1	1	1H7	ug/L
) 7-75-9	Acenaphthene	1	O	H55	1	1H7	ug/L
z1-5) -z	5,2-Dinitrophenol	) .5	O	5.5	) .5	1H7	ug/L
1HH-H5-0	2-Nitrophenol	z.5	O	5.1	z.5	1H7	ug/L
175-82-9	Diben4ofuran	1	O	H5z	1	1H7	ug/L
151-12-5	5,2-Dinitrotoluene	1	O	1	1	1H7	ug/L
) 2-88-5	Diethylphthalate	1	O	H79	1	1H7	ug/L
0HHz-05-7	2-Chlorophenyl-phenylether	1	O	H55	1	1H7	ug/L
) 8-07-0	Fluorene	1	O	H75	1	1H7	ug/L
1HH-H1-8	2-Nitroaniline	5.1	O	1.2	5.1	1H7	ug/L
z72-z5-1	2,8-Dinitro-5-methylphenol	5.1	O	H08	5.1	1H7	ug/L
) 8-7H-8	n-Nitrosodiphenylamine	1	O	H85	1	1H7	ug/L
1H1-zz-7	2-6 romophenyl-phenylether	1	O	H52	1	1H7	ug/L
11) -02-1	(exachloroben4ene	1	O	H19	1	1H7	ug/L
1915-52-9	Atra4ine	1	O	H21	1	1H7	ug/L
) 0-) 8-z	Pentachlorophenol	1	O	1	1	1H7	ug/L
) z-H1-)	Phenanthrene	1	O	H50	1	1H7	ug/L
15H-15-0	Anthracene	1	O	H18	1	1H7	ug/L
) 8-02-)	Carba4ole	1	O	H57	1	1H7	ug/L
) 2-02-5	Di-n-butylphthalate	1	O	1	1	1H7	ug/L
5H8-22-H	Fluoranthene	1	O	H21	1	1H7	ug/L
159-HH-H	Pyrene	1	O	H51	1	1H7	ug/L
) z-8) -0	6 utylben4ylphthalate	1	O	H5	1	1H7	ug/L
91-92-1	7,7-Dichloroben4idine	1	O	1	1	1H7	ug/L
z8-zz-7	6 en4ofaJanthracene	1	O	H18	1	1H7	ug/L
51) -H1-9	Chrysene	1	O	H19	1	1H7	ug/L
110-) 1-0	6 isf5-ethylhexylJphthalate	1	O	H18	1	1H7	ug/L
110-) 2-H	Di-n-octyl phthalate	1	O	Hz7	1	1H7	ug/L
5Hz-99-5	6 en4ofbJfluoranthene	1	O	H7	1	1H7	ug/L
5H0-H) -9	6 en4ofkJfluoranthene	1	O	H19	1	1H7	ug/L
zH-75-)	6 en4ofaJpyrene	1	O	H12	1	1H7	ug/L
197-79-z	Indenof1,5,7-cdJpyrene	1	O	H1z	1	1H7	ug/L
z7-0H-7	Diben4ofa,hJanthracene	1	O	H27	1	1H7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H7/15/18
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H7/12/18
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H0	Matrix:	Water
Analytical Method:	SW) 50H	% Moisture:	1HH
Sample Wt/Vol:	90H Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVQCMS Group1
Extraction Bype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) zzz8.D	1	H7/10/18 H9:7H	H7/19/18 H8:H0	P6)) 929

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-52-5	6 en4ofg,h,iJperylene	1	O	H7	1	1H7	ug/L
9z-92-7	1,5,2,z-Betrachloroben4ene	1	O	H51	1	1H7	ug/L
z) -9H-5	5,7,2,8-Betrachlorophenol	1	O	H51	1	1H7	ug/L
SURROGATES							
780-15-2	5-Fluorophenol	8z		1H- 17H		27%	SPK: 1zH
17150-)) -7	Phenol-d8	21.)		1H- 17H		5) %	SPK: 1zH
218z-8H-H	Nitroben4ene-dz	) 2.8		78 - 171		) z%	SPK: 1HH
751-8H-)	5-Fluorobiphenyl	9H5		79 - 171		9H%	SPK: 1HH
11) -09-8	5,2,8-Bribromophenol	1zH		5z - 1zz		9) %	SPK: 1zH
101) -z1-H	Berphenyl-d12	) 9.)		57 - 17H		9H%	SPK: 1HH
INTERNAL STANDARDS							
7) zz-) 5-1	1,2-Dichloroben4ene-d2	150) 02	8.) z				
1128-8z-5	Naphthalene-d)	z27105	) .12				
1zH80-58-5	Acenaphthene-d1H	5257z9	9.) 9				
1z10-55-5	Phenanthrene-d1H	20) 520	11.70				
1019-H7-z	Chrysene-d15	7018) 9	12				
1z5H-98-7	Perylene-d15	7H9588	1z.27				
TENTATIVE IDENTIFIED COMPOUNDS							
	unknown8.85	89.9	T6			8.85	ug/L

O = Not Detected
LQ3 = Limit oU3 uantitation
MDL = Method Detection Limit
LQD = Limit oUDetection
E = Value Exceeds Calibration Range
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
6 = Analyte Found in Associated Method 6 lank
N = Presumptive Evidence oUa Compound
* = Values outside oU3 C limits
D = Dilution
fJ = Laboratory In(ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/15/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H)	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	9) H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Bype :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) OOO0.D	1	H8/10/12 H9:8H	H8/19/12 H2:8O	P6)) 959

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1HH-O7-0	6 en4aldehyde	1	Q	H09	1	1H7	ug/L
1H) -9O-7	Phenol	1	Q	H71	1	1H7	ug/L
111-55-5	bisf7-ChloroethylJether	1	Q	HO2	1	1H7	ug/L
9O-O0-)	7-Chlorophenol	1	Q	HOO	1	1H7	ug/L
9O-5) -0	7-Methylphenol	1	Q	H75	1	1H7	ug/L
1H) -2H-1	7,7-oxybisf1-ChloropropaneJ	1	Q	H10	1	1H7	ug/L
9) -) 2-7	Acetophenone	1	Q	H15	1	1H7	ug/L
2O095-92-9	8+5-Methylphenols	1	Q	H89	1	1H7	ug/L
271-25-0	n-Nitroso-di-n-propylamine	1	Q	H7	1	1H7	ug/L
20-07-1	(exachloroethane	1	Q	H72	1	1H7	ug/L
9) -9O-8	Nitroben4ene	1	Q	H29	1	1H7	ug/L
0) -O9-1	Isophorone	1	Q	H81	1	1H7	ug/L
)) -0O-O	7-Nitrophenol	1	Q	HO8	1	1H7	ug/L
1HO-20-9	7,5-Dimethylphenol	1	Q	H07	1	1H7	ug/L
111-91-1	bisf7-ChloroethoxyJmethane	1	Q	HO2	1	1H7	ug/L
17H-) 8-7	7,5-Dichlorophenol	1	Q	H20	1	1H7	ug/L
91-7H-8	Naphthalene	1	Q	H17	1	1H7	ug/L
1H2-50-)	5-Chloroaniline	1	Q	1	1	1H7	ug/L
) 0-2) -8	(exachlorobutadiene	1	Q	H72	1	1H7	ug/L
1HO-2H-7	Caprolactam	1	Q	1	1	1H7	ug/L
O9-OH-0	5-Chloro-8-methylphenol	1	Q	H51	1	1H7	ug/L
91-O0-2	7-Methylnaphthalene	1	Q	H88	1	1H7	ug/L
00-50-5	(exachlorocyclopentadiene	1	Q	H75	1	1H7	ug/L
)) -H2-7	7,5,2-Brichlorophenol	1	Q	HO0	1	1H7	ug/L
9O-9O-5	7,5,O-Brichlorophenol	1	Q	H51	1	1H7	ug/L
97-O7-5	1,1-6 iphenyl	1	Q	H1O	1	1H7	ug/L
91-O) -0	7-Chloronaphthalene	1	Q	H12	1	1H7	ug/L
)) -05-5	7-Nitroaniline	1	Q	HO	1	1H7	ug/L
181-11-8	Dimethylphthalate	1	Q	H77	1	1H7	ug/L
7H) -92-)	Acenaphthylene	1	Q	H01	1	1H7	ug/L
2H2-7H-7	7,2-Dinitrotoluene	1	Q	H88	1	1H7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/15/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H)	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	9) H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Bype :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) OOO0.D	1	H8/10/12 H9:8H	H8/19/12 H2:8O	P6)) 959

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-H9-7	8-Nitroaniline	1	Q	1	1	1H7	ug/L
) 8-87-9	Acenaphthene	1	Q	H71	1	1H7	ug/L
O1-7) -O	7,5-Dinitrophenol	) .7	Q	7.1	) .7	1H7	ug/L
1HH-H7-0	5-Nitrophenol	O.1	Q	7	O.1	1H7	ug/L
187-25-9	Diben4oUuran	1	Q	H75	1	1H7	ug/L
171-15-7	7,5-Dinitrotoluene	1	Q	1	1	1H7	ug/L
) 5-22-7	Diethylphthalate	1	Q	H89	1	1H7	ug/L
0HHO-07-8	5-Chlorophenyl-phenylether	1	Q	H71	1	1H7	ug/L
) 2-08-0	Fluorene	1	Q	H87	1	1H7	ug/L
1HH-H1-2	5-Nitroaniline	7	Q	1.5	7	1H7	ug/L
O85-O7-1	5,2-Dinitro-7-methylphenol	7	Q	H02	7	1H7	ug/L
) 2-8H-2	n-Nitrosodiphenylamine	1	Q	H21	1	1H7	ug/L
1H1-OO-8	5-6 romophenyl-phenylether	1	Q	H78	1	1H7	ug/L
11) -05-1	(exachloroben4ene	1	Q	H1)	1	1H7	ug/L
1917-75-9	Atra4ine	1	Q	H51	1	1H7	ug/L
) 0-) 2-O	Pentachlorophenol	1	Q	1	1	1H7	ug/L
) O-H1 -)	Phenanthrene	1	Q	H70	1	1H7	ug/L
17H-17-0	Anthracene	1	Q	H12	1	1H7	ug/L
) 2-05-)	Carba4ole	1	Q	H77	1	1H7	ug/L
) 5-05-7	Di-n-butylphthalate	1	Q	1	1	1H7	ug/L
7H2-55-H	Fluoranthene	1	Q	H51	1	1H7	ug/L
179-HH-H	Pyrene	1	Q	H7	1	1H7	ug/L
) O-2) -0	6 utylben4ylphthalate	1	Q	H19	1	1H7	ug/L
91-95-1	8,8-Dichloroben4idine	1	Q	1	1	1H7	ug/L
O2-OO-8	6 en4ofaJanthracene	1	Q	H12	1	1H7	ug/L
71) -H1 -9	Chrysene	1	Q	H1)	1	1H7	ug/L
110-) 1-0	6 isf7-ethylhexylJphthalate	1	Q	H12	1	1H7	ug/L
110-) 5-H	Di-n-octyl phthalate	1	Q	HO7	1	1H7	ug/L
7HO-99-7	6 en4ofbJUuoranthene	1	Q	H8	1	1H7	ug/L
7H0-H) -9	6 en4ofkJUuoranthene	1	Q	H1)	1	1H7	ug/L
OH-87-)	6 en4ofaJpyrene	1	Q	H15	1	1H7	ug/L
198-89-O	Indenof1,7,8-cdJpyrene	1	Q	H1O	1	1H7	ug/L
O8-0H-8	Diben4ofa,hJanthracene	1	Q	H58	1	1H7	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/15/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H)	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	9) H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Bype :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/3 c 6 atch:	Dilution:	Prep Date	Date Analy4ed	Prep 6 atch ID
6 FH) OOO0.D	1	H8/10/12 H9:8H	H8/19/12 H2:8O	P6)) 959

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-75-7	6 en4ofg,h,iJperylene	1	Q	H8	1	1H7	ug/L
9O-95-8	1,7,5,O-Betrachloroben4ene	1	Q	H7	1	1H7	ug/L
O) -9H-7	7,8,5,2-Betrachlorophenol	1	Q	H7	1	1H7	ug/L
SURROGATES							
820-17-5	7-Fluorophenol	28.)		1H- 18H		58%	SPK: 1OH
18170-)) -8	Phenol-d2	57.)		1H- 18H		79%	SPK: 1OH
512O-2H-H	Nitroben4ene-dO	) O.0		82 - 181		) 2%	SPK: 1HH
871-2H-)	7-Fluorobiphenyl	97.O		89 - 181		97%	SPK: 1HH
11) -09-2	7,5,2-Bribromophenol	12H		7O- 1OO		1H2%	SPK: 1OH
101) -O1-H	Berphenyl-d15	)) .0		78 - 18H		) 9%	SPK: 1HH
INTERNAL STANDARDS							
8) OO-) 7-1	1,5-Dichloroben4ene-d5	17) 792	2.) O				
1152-2O-7	Naphthalene-d)	O559) 1	) .15				
1OH-20-72-7	Acenaphthene-d1H	789H-22	9.) 9				
1O10-77-7	Phenanthrene-d1H	52099)	11.80				
1019-H8-O	Chrysene-d17	808750	15				
1O7H-92-8	Perylene-d17	8H57O0	1O.58				
TENTATIVE IDENTIFIED COMPOUNDS							
	unknown2.27	0H1	T6			2.27	ug/L

Q = Not Detected
Lz 3 = Limit oU3 uantitation
MDL = Method Detection Limit
Lz D = Limit oUDetection
E = Value Exceeds Calibration Range
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
6 = Analyte Found in Associated Method 6 lank
N = Presumptive Evidence oUa Compound
* = Values outside oU3 C limits
D = Dilution
fJ = Laboratory In(ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/13/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H9	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	99H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Type :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/6 c 4 atch:	Dilution:	Prep Date	Date AnalyQed	Prep 4 atch ID
4 FH) 555) .D	1	H8/10/12 H9:8H	H8/19/12 H0:H8	P4)) 939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1HH-57-0	4 enQaldehyde	1	Q	H0)	1	1H1	ug/L
1H) -95-7	Phenol	1	Q	H71	1	1H1	ug/L
111-33-3	bisf7-ChloroethylJether	1	Q	H52	1	1H1	ug/L
95-50-)	7-Chlorophenol	1	Q	H55	1	1H1	ug/L
95-3) -0	7-Methylphenol	1	Q	H73	1	1H1	ug/L
1H) -2H-1	7,7-oxybisf1-ChloropropaneJ	1	Q	H10	1	1H1	ug/L
9) -) 2-7	Acetophenone	1	Q	H13	1	1H1	ug/L
25093-92-9	8+3-Methylphenols	1	Q	H8)	1	1H1	ug/L
271-23-0	n-Nitroso-di-n-propylamine	1	Q	H7	1	1H1	ug/L
20-07-1	(exachloroethane	1	Q	H75	1	1H1	ug/L
9) -95-8	NitrobenQene	1	Q	H29	1	1H1	ug/L
0) -59-1	Isophorone	1	Q	H8	1	1H1	ug/L
)) -05-5	7-Nitrophenol	1	Q	H58	1	1H1	ug/L
1H5-20-9	7,3-Dimethylphenol	1	Q	H07	1	1H1	ug/L
111-91-1	bisf7-ChloroethoxyJmethane	1	Q	H52	1	1H1	ug/L
17H-) 8-7	7,3-Dichlorophenol	1	Q	H20	1	1H1	ug/L
91-7H-8	Naphthalene	1	Q	H17	1	1H1	ug/L
1H2-30-)	3-Chloroaniline	1	Q	1	1	1H1	ug/L
) 0-2) -8	(exachlorobutadiene	1	Q	H75	1	1H1	ug/L
1H5-2H-7	Caprolactam	1	Q	1	1	1H1	ug/L
59-5H-0	3-Chloro-8-methylphenol	1	Q	H3	1	1H1	ug/L
91-50-2	7-Methylnaphthalene	1	Q	H87	1	1H1	ug/L
00-30-3	(exachlorocyclopentadiene	1	Q	H73	1	1H1	ug/L
)) -H2-7	7,3,2-Brichlorophenol	1	Q	H50	1	1H1	ug/L
95-95-3	7,3,5-Brichlorophenol	1	Q	H3	1	1H1	ug/L
97-57-3	1,1-4 iphenyl	1	Q	H15	1	1H1	ug/L
91-5) -0	7-Chloronaphthalene	1	Q	H12	1	1H1	ug/L
)) -03-3	7-Nitroaniline	1	Q	H39	1	1H1	ug/L
181-11-8	Dimethylphthalate	1	Q	H77	1	1H1	ug/L
7H) -92-)	Acenaphthylene	1	Q	H01	1	1H1	ug/L
2H2-7H-7	7,2-Dinitrotoluene	1	Q	H87	1	1H1	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/13/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H9	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	99H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Type :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/6 c 4 atch:	Dilution:	Prep Date	Date AnalyOed	Prep 4 atch ID
4 FH) 555) .D	1	H8/10/12 H9:8H	H8/19/12 H0:H8	P4)) 939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-H9-7	8-Nitroaniline	1	Q	1	1	1H1	ug/L
) 8-87-9	Acenaphthene	1	Q	H71	1	1H1	ug/L
51-7) -5	7,3-Dinitrophenol	) .1	Q	7.1	) .1	1H1	ug/L
1HH-H7-0	3-Nitrophenol	5.1	Q	7	5.1	1H1	ug/L
187-23-9	DibenOoUran	1	Q	H73	1	1H1	ug/L
171-13-7	7,3-Dinitrotoluene	1	Q	1	1	1H1	ug/L
) 3-22-7	Diethylphthalate	1	Q	H8)	1	1H1	ug/L
0HH-5-07-8	3-Chlorophenyl-phenylether	1	Q	H71	1	1H1	ug/L
) 2-08-0	Fluorene	1	Q	H81	1	1H1	ug/L
1HH-H1-2	3-Nitroaniline	7	Q	1.3	7	1H1	ug/L
583-57-1	3,2-Dinitro-7-methylphenol	7	Q	H05	7	1H1	ug/L
) 2-8H-2	n-Nitrosodiphenylamine	1	Q	H21	1	1H1	ug/L
1H1-55-8	3-4 romophenyl-phenylether	1	Q	H78	1	1H1	ug/L
11) -03-1	(exachlorobenOene	1	Q	H1)	1	1H1	ug/L
1917-73-9	AtraOine	1	Q	H3	1	1H1	ug/L
) 0-) 2-5	Pentachlorophenol	1	Q	1	1	1H1	ug/L
) 5-H1-)	Phenanthrene	1	Q	H72	1	1H1	ug/L
17H-17-0	Anthracene	1	Q	H12	1	1H1	ug/L
) 2-03-)	CarbaOole	1	Q	H77	1	1H1	ug/L
) 3-03-7	Di-n-butylphthalate	1	Q	1	1	1H1	ug/L
7H2-33-H	Fluoranthene	1	Q	H3	1	1H1	ug/L
179-HH-H	Pyrene	1	Q	H7	1	1H1	ug/L
) 5-2) -0	4 utylbenOylphthalate	1	Q	H19	1	1H1	ug/L
91-93-1	8,8-DichlorobenOidine	1	Q	1	1	1H1	ug/L
52-55-8	4 enOofaJanthracene	1	Q	H12	1	1H1	ug/L
71) -H1-9	Chrysene	1	Q	H1)	1	1H1	ug/L
110-) 1-0	4 isf7-ethylhexylJphthalate	1	Q	H12	1	1H1	ug/L
110-) 3-H	Di-n-octyl phthalate	1	Q	H57	1	1H1	ug/L
7H5-99-7	4 enOofbJUuoranthene	1	Q	H79	1	1H1	ug/L
7H0-H) -9	4 enOofkJUuoranthene	1	Q	H1)	1	1H1	ug/L
5H-87-)	4 enOofaJpyrene	1	Q	H13	1	1H1	ug/L
198-89-5	Indenof1,7,8-cdJpyrene	1	Q	H15	1	1H1	ug/L
58-0H-8	DibenOofa,hJanthracene	1	Q	H37	1	1H1	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H8/17/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H8/13/12
Client Sample ID:	BW-5	SDG No.:	(10))
Lab Sample ID:	(10)) -H9	Matrix:	Water
Analytical Method:	SW) 70H	% Moisture:	1HH
Sample Wt/Vol:	99H Qnits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	Best:	SVz CMS Group1
Extraction Bype :	Decanted : N	Level :	Lz W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P(:

File ID/6 c 4 atch:	Dilution:	Prep Date	Date AnalyOed	Prep 4 atch ID
4 FH) 555) .D	1	H8/10/12 H9:8H	H8/19/12 H0:H8	P4)) 939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-73-7	4 enOofg,h,iJperylene	1	Q	H79	1	1H1	ug/L
95-93-8	1,7,3,5-BetrachlorobenOene	1	Q	H7	1	1H1	ug/L
5) -9H-7	7,8,3,2-Betrachlorophenol	1	Q	H7	1	1H1	ug/L
SURROGATES							
820-17-3	7-Fluorophenol	29.3		1H- 18H		32%	SPK: 15H
18170-)) -8	Phenol-d2	33		1H- 18H		79%	SPK: 15H
3125-2H-H	NitrobenOene-d5	)) .7		82 - 181		)) %	SPK: 1HH
871-2H-)	7-Fluorobiphenyl	91.1		89 - 181		91%	SPK: 1HH
11) -09-2	7,3,2-Bribromophenol	13H		75 - 155		97%	SPK: 15H
101) -51-H	Berphenyl-d13	) 0.)		78 - 18H		)) %	SPK: 1HH
INTERNAL STANDARDS							
8) 55-) 7-1	1,3-DichlorobenOene-d3	119) 38	2.) 5				
1132-25-7	Naphthalene-d)	57H) 19	) .13				
15H20-72-7	Acenaphthene-d1H	7817))	9.) 9				
1510-77-7	Phenanthrene-d1H	357802	11.80				
1019-H8-5	Chrysene-d17	8513H2	13				
157H-92-8	Perylene-d17	795512	15.38				
TENTATIVE IDENTIFIED COMPOUNDS							
	unknown2.27	08.3	T4			2.27	ug/L

Q = Not Detected
Lz 6 = Limit oU6 uantitation
MDL = Method Detection Limit
Lz D = Limit oUDetection
E = Value Exceeds Calibration Range
6 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
4 = Analyte Found in Associated Method 4 lank
N = Presumptive Evidence oUa Compound
* = Values outside oU6 C limits
D = Dilution
fJ = Laboratory In(ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
H1788-01	SB-1(8-9)	2-Fluorophenol	150	100.99	67		28	127
		Phenol-d6	150	103.88	69		34	127
		Nitrobenzene-d5	100	78.21	78		31	132
		2-Fluorobiphenyl	100	71.73	72		39	123
		2,4,6-Tribromophenol	150	100.02	67		30	133
		Terphenyl-d14	100	81.69	82		37	115
H1788-01MS	SB-1(8-9)MS	2-Fluorophenol	150	122.92	82		28	127
		Phenol-d6	150	133.52	89		34	127
		Nitrobenzene-d5	100	96.04	96		31	132
		2-Fluorobiphenyl	100	100.34	100		39	123
		2,4,6-Tribromophenol	150	121.36	81		30	133
		Terphenyl-d14	100	87.41	87		37	115
H1788-01MSD	SB-1(8-9)MSD	2-Fluorophenol	150	123.44	82		28	127
		Phenol-d6	150	132.16	88		34	127
		Nitrobenzene-d5	100	95.57	96		31	132
		2-Fluorobiphenyl	100	102.31	102		39	123
		2,4,6-Tribromophenol	150	124.22	83		30	133
		Terphenyl-d14	100	80.78	81		37	115
H1788-02	SB-2(8-9)	2-Fluorophenol	150	138.42	92		28	127
		Phenol-d6	150	140.89	94		34	127
		Nitrobenzene-d5	100	90.15	90		31	132
		2-Fluorobiphenyl	100	84.02	84		39	123
		2,4,6-Tribromophenol	150	121.82	81		30	133
		Terphenyl-d14	100	96.38	96		37	115
H1788-03	SB-3(7-8)	2-Fluorophenol	150	164.91	110		28	127
		Phenol-d6	150	155.70	104		34	127
		Nitrobenzene-d5	100	96.49	96		31	132
		2-Fluorobiphenyl	100	106.64	107		39	123
		2,4,6-Tribromophenol	150	180.76	121		30	133
		Terphenyl-d14	100	107.81	108		37	115
H1788-04	SB-4(7-8)	2-Fluorophenol	150	108.50	72		28	127
		Phenol-d6	150	109.22	73		34	127
		Nitrobenzene-d5	100	81.33	81		31	132
		2-Fluorobiphenyl	100	81.05	81		39	123
		2,4,6-Tribromophenol	150	107.02	71		30	133
		Terphenyl-d14	100	98.66	99		37	115
H1788-05	SB-5(9-10)	2-Fluorophenol	150	113.32	76		28	127
		Phenol-d6	150	126.85	85		34	127
		Nitrobenzene-d5	100	82.13	82		31	132
		2-Fluorobiphenyl	100	76.47	76		39	123
		2,4,6-Tribromophenol	150	105.60	70		30	133
		Terphenyl-d14	100	76.16	76		37	115
PB88925BL	PB88925BL	2-Fluorophenol	150	105.14	70		28	127
		Phenol-d6	150	99.19	66		34	127
		Nitrobenzene-d5	100	73.97	74		31	132
		2-Fluorobiphenyl	100	77.99	78		39	123
		2,4,6-Tribromophenol	150	112.06	75		30	133
		Terphenyl-d14	100	73.49	73		37	115
PB88925BS	PB88925BS	2-Fluorophenol	150	124.99	83		28	127
		Phenol-d6	150	126.16	84		34	127
		Nitrobenzene-d5	100	81.88	82		31	132
		2-Fluorobiphenyl	100	98.79	99		39	123

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Surrogate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
PB88925BS	PB88925BS	2,4,6-Tribromophenol	150	119.90	80		30	133
		Terphenyl-d14	100	89.19	89		37	115

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Surrogate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
H1788-06	TW-1	2-Fluorophenol	150	58.52	39		10	130
		Phenol-d6	150	36.48	24		10	130
		Nitrobenzene-d5	100	87.38	87		36	131
		2-Fluorobiphenyl	100	97.17	97		39	131
		2,4,6-Tribromophenol	150	151.95	101		25	155
		Terphenyl-d14	100	83.69	84		23	130
H1788-07	TW-2	2-Fluorophenol	150	65.01	43		10	130
		Phenol-d6	150	41.80	28		10	130
		Nitrobenzene-d5	100	84.56	85		36	131
		2-Fluorobiphenyl	100	90.19	90		39	131
		2,4,6-Tribromophenol	150	147.00	98		25	155
		Terphenyl-d14	100	89.82	90		23	130
H1788-08	TW-4	2-Fluorophenol	150	63.78	43		10	130
		Phenol-d6	150	42.83	29		10	130
		Nitrobenzene-d5	100	85.71	86		36	131
		2-Fluorobiphenyl	100	92.47	92		39	131
		2,4,6-Tribromophenol	150	158.26	106		25	155
		Terphenyl-d14	100	88.74	89		23	130
H1788-09	TW-5	2-Fluorophenol	150	69.43	46		10	130
		Phenol-d6	150	44.02	29		10	130
		Nitrobenzene-d5	100	88.23	88		36	131
		2-Fluorobiphenyl	100	91.06	91		39	131
		2,4,6-Tribromophenol	150	138.01	92		25	155
		Terphenyl-d14	100	87.82	88		23	130
H1790-05MS	GRID-8A-(0-10)MS	2-Fluorophenol	150	129.33	86		10	130
		Phenol-d6	150	111.76	75		10	130
		Nitrobenzene-d5	100	90.02	90		36	131
		2-Fluorobiphenyl	100	113.05	113		39	131
		2,4,6-Tribromophenol	150	137.15	91		25	155
		Terphenyl-d14	100	99.83	100		23	130
H1790-05MSD	GRID-8A-(0-10)MSD	2-Fluorophenol	150	125.73	84		10	130
		Phenol-d6	150	110.11	73		10	130
		Nitrobenzene-d5	100	89.74	90		36	131
		2-Fluorobiphenyl	100	101.26	101		39	131
		2,4,6-Tribromophenol	150	127.37	85		25	155
		Terphenyl-d14	100	98.25	98		23	130
PB88949BL	PB88949BL	2-Fluorophenol	150	128.02	85		10	130
		Phenol-d6	150	120.69	80		10	130
		Nitrobenzene-d5	100	81.88	82		36	131
		2-Fluorobiphenyl	100	82.59	83		39	131
		2,4,6-Tribromophenol	150	135.92	91		25	155
		Terphenyl-d14	100	75.77	76		23	130
PB88949BS	PB88949BS	2-Fluorophenol	150	120.49	80		10	130
		Phenol-d6	150	123.10	82		10	130
		Nitrobenzene-d5	100	81.69	82		36	131
		2-Fluorobiphenyl	100	94.85	95		39	131
		2,4,6-Tribromophenol	150	132.41	88		25	155
		Terphenyl-d14	100	75.93	76		23	130

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: H1790-05MS		**Client Sample ID: GRID-8A-(0-10)MS**						**DataFile: BF085597.D**			
Benzaldehyde	500	0	87.2	ug/L	17				10	137	
Phenol	500	0	340	ug/L	68				10	130	
bis(2-Chloroethyl)ether	500	0	450	ug/L	90				29	141	
2-Chlorophenol	500	0	440	ug/L	88				23	127	
2-Methylphenol	500	0	430	ug/L	86				14	118	
2,2-oxybis(1-Chloropropane)	500	0	400	ug/L	80				36	141	
Acetophenone	500	0	410	ug/L	82				31	164	
3+4-Methylphenols	500	0	430	ug/L	86				12	109	
N-Nitroso-di-n-propylamine	500	0	400	ug/L	80				36	147	
Hexachloroethane	500	0	390	ug/L	78				19	149	
Nitrobenzene	500	0	460	ug/L	92				30	150	
Isophorone	500	0	440	ug/L	88				39	146	
2-Nitrophenol	500	0	440	ug/L	88				30	148	
2,4-Dimethylphenol	500	0	410	ug/L	82				17	143	
bis(2-Chloroethoxy)methane	500	0	450	ug/L	90				39	143	
2,4-Dichlorophenol	500	0	460	ug/L	92				22	146	
Naphthalene	500	0	450	ug/L	90				17	157	
4-Chloroaniline	500	0	71.9	ug/L	14				10	95	
Hexachlorobutadiene	500	0	400	ug/L	80				20	150	
Caprolactam	500	0	390	ug/L	78				10	130	
4-Chloro-3-methylphenol	500	0	420	ug/L	84				17	148	
2-Methylnaphthalene	500	0	470	ug/L	94				38	146	
Hexachlorocyclopentadiene	1000	0	510	ug/L	51				20	153	
2,4,6-Trichlorophenol	500	0	470	ug/L	94				24	155	
2,4,5-Trichlorophenol	500	0	480	ug/L	96				26	154	
1,1-Biphenyl	500	0	400	ug/L	80				38	154	
2-Chloronaphthalene	500	0	430	ug/L	86				41	145	
2-Nitroaniline	500	0	520	ug/L	104				39	151	
Dimethylphthalate	500	0	490	ug/L	98				42	147	
Acenaphthylene	500	0	470	ug/L	94				40	141	
2,6-Dinitrotoluene	500	0	460	ug/L	92				43	148	
3-Nitroaniline	500	0	190	ug/L	38				10	111	
Acenaphthene	500	0	470	ug/L	94				37	146	
2,4-Dinitrophenol	1000	0	320	ug/L	32				14	167	
4-Nitrophenol	1000	0	620	ug/L	62				10	130	
Dibenzofuran	500	0	540	ug/L	108				41	145	
2,4-Dinitrotoluene	500	0	440	ug/L	88				41	152	
Diethylphthalate	500	0	480	ug/L	96				41	148	
4-Chlorophenyl-phenylether	500	0	470	ug/L	94				38	149	
Fluorene	500	0	470	ug/L	94				39	144	
4-Nitroaniline	500	0	340	ug/L	68				27	138	
4,6-Dinitro-2-methylphenol	500	0	250	ug/L	50				32	175	
N-Nitrosodiphenylamine	500	0	510	ug/L	102				40	150	
4-Bromophenyl-phenylether	500	0	540	ug/L	108				42	151	
Hexachlorobenzene	500	0	510	ug/L	102				33	154	
Atrazine	500	0	590	ug/L	118				20	162	
Pentachlorophenol	1000	0	800	ug/L	80				28	171	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	500	0	490	ug/L	98				40	147	
Anthracene	500	0	450	ug/L	90				41	146	
Carbazole	500	0	480	ug/L	96				37	154	
Di-n-butylphthalate	500	0	520	ug/L	104				40	151	
Fluoranthene	500	0	380	ug/L	76				42	146	
Pyrene	500	0	420	ug/L	84				41	149	
Butylbenzylphthalate	500	0	420	ug/L	84				39	155	
3,3-Dichlorobenzidine	500	0	220	ug/L	44				10	114	
Benzo(a)anthracene	500	0	480	ug/L	96				41	147	
Chrysene	500	0	390	ug/L	78				44	144	
bis(2-Ethylhexyl)phthalate	500	0	450	ug/L	90				33	160	
Di-n-octyl phthalate	500	0	510	ug/L	102				36	158	
Benzo(b)fluoranthene	500	0	420	ug/L	84				40	150	
Benzo(k)fluoranthene	500	0	500	ug/L	100				40	147	
Benzo(a)pyrene	500	0	490	ug/L	98				42	147	
Indeno(1,2,3-cd)pyrene	500	0	570	ug/L	114				30	166	
Dibenz(a,h)anthracene	500	0	500	ug/L	100				23	172	
Benzo(g,h,i)perylene	500	0	460	ug/L	92				27	167	
1,2,4,5-Tetrachlorobenzene	500	0	420	ug/L	84	*			89	102	
2,3,4,6-Tetrachlorophenol	500	0	480	ug/L	96				91	111	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: H1790-05MSD		**Client Sample ID: GRID-8A-(0-10)MSD**						**DataFile: BF085598.D**			
Benzaldehyde	500	0	75	ug/L	15		13		10	137	20
Phenol	500	0	310	ug/L	62		9		10	130	20
bis(2-Chloroethyl)ether	500	0	450	ug/L	90		0		29	141	20
2-Chlorophenol	500	0	410	ug/L	82		7		23	127	20
2-Methylphenol	500	0	410	ug/L	82		5		14	118	20
2,2-oxybis(1-Chloropropane)	500	0	400	ug/L	80		0		36	141	20
Acetophenone	500	0	390	ug/L	78		5		31	164	20
3+4-Methylphenols	500	0	400	ug/L	80		7		12	109	20
N-Nitroso-di-n-propylamine	500	0	410	ug/L	82		2		36	147	20
Hexachloroethane	500	0	380	ug/L	76		3		19	149	20
Nitrobenzene	500	0	430	ug/L	86		7		30	150	20
Isophorone	500	0	420	ug/L	84		5		39	146	20
2-Nitrophenol	500	0	440	ug/L	88		0		30	148	20
2,4-Dimethylphenol	500	0	400	ug/L	80		2		17	143	20
bis(2-Chloroethoxy)methane	500	0	440	ug/L	88		2		39	143	20
2,4-Dichlorophenol	500	0	450	ug/L	90		2		22	146	20
Naphthalene	500	84	440	ug/L	71		24	*	17	157	20
4-Chloroaniline	500	0	95.8	ug/L	19		30	*	10	95	20
Hexachlorobutadiene	500	0	390	ug/L	78		3		20	150	20
Caprolactam	500	0	380	ug/L	76		3		10	130	20
4-Chloro-3-methylphenol	500	0	400	ug/L	80		5		17	148	20
2-Methylnaphthalene	500	0	470	ug/L	94		0		38	146	20
Hexachlorocyclopentadiene	1000	0	460	ug/L	46		10		20	153	20
2,4,6-Trichlorophenol	500	0	440	ug/L	88		7		24	155	20
2,4,5-Trichlorophenol	500	0	440	ug/L	88		9		26	154	20
1,1-Biphenyl	500	0	390	ug/L	78		3		38	154	20
2-Chloronaphthalene	500	0	410	ug/L	82		5		41	145	20
2-Nitroaniline	500	0	490	ug/L	98		6		39	151	20
Dimethylphthalate	500	0	460	ug/L	92		6		42	147	20
Acenaphthylene	500	0	450	ug/L	90		4		40	141	20
2,6-Dinitrotoluene	500	0	430	ug/L	86		7		43	148	20
3-Nitroaniline	500	0	240	ug/L	48		23	*	10	111	20
Acenaphthene	500	20.8	460	ug/L	88		7		37	146	20
2,4-Dinitrophenol	1000	0	400	ug/L	40		22	*	14	167	20
4-Nitrophenol	1000	0	610	ug/L	61		2		10	130	20
Dibenzofuran	500	0	500	ug/L	100		8		41	145	20
2,4-Dinitrotoluene	500	0	430	ug/L	86		2		41	152	20
Diethylphthalate	500	0	460	ug/L	92		4		41	148	20
4-Chlorophenyl-phenylether	500	0	440	ug/L	88		7		38	149	20
Fluorene	500	0	430	ug/L	86		9		39	144	20
4-Nitroaniline	500	0	340	ug/L	68		0		27	138	20
4,6-Dinitro-2-methylphenol	500	0	300	ug/L	60		18		32	175	20
N-Nitrosodiphenylamine	500	0	500	ug/L	100		2		40	150	20
4-Bromophenyl-phenylether	500	0	530	ug/L	106		2		42	151	20
Hexachlorobenzene	500	0	480	ug/L	96		6		33	154	20
Atrazine	500	0	560	ug/L	112		5		20	162	20
Pentachlorophenol	1000	0	780	ug/L	78		3		28	171	20

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	500	0	470	ug/L	94		4		40	147	20
Anthracene	500	0	430	ug/L	86		5		41	146	20
Carbazole	500	0	450	ug/L	90		6		37	154	20
Di-n-butylphthalate	500	0	500	ug/L	100		4		40	151	20
Fluoranthene	500	0	360	ug/L	72		5		42	146	20
Pyrene	500	0	410	ug/L	82		2		41	149	20
Butylbenzylphthalate	500	0	410	ug/L	82		2		39	155	20
3,3-Dichlorobenzidine	500	0	300	ug/L	60		31	*	10	114	20
Benzo(a)anthracene	500	0	440	ug/L	88		9		41	147	20
Chrysene	500	0	390	ug/L	78		0		44	144	20
bis(2-Ethylhexyl)phthalate	500	0	440	ug/L	88		2		33	160	20
Di-n-octyl phthalate	500	0	500	ug/L	100		2		36	158	20
Benzo(b)fluoranthene	500	0	420	ug/L	84		0		40	150	20
Benzo(k)fluoranthene	500	0	470	ug/L	94		6		40	147	20
Benzo(a)pyrene	500	0	470	ug/L	94		4		42	147	20
Indeno(1,2,3-cd)pyrene	500	0	550	ug/L	110		4		30	166	20
Dibenz(a,h)anthracene	500	0	480	ug/L	96		4		23	172	20
Benzo(g,h,i)perylene	500	0	440	ug/L	88		4		27	167	20
1,2,4,5-Tetrachlorobenzene	500	0	390	ug/L	78	*	7		89	102	20
2,3,4,6-Tetrachlorophenol	500	0	460	ug/L	92		4		91	111	20

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: H1788-01MS		**Client Sample ID: S9-158-()MS**						**DataFile: 9F08B624.D**			
Benzaldehyde	1900	0	570	ug/Kg	30				10	105	
Phenol	1900	0	1600	ug/Kg	84				40	115	
bis(2-Chloroethyl)ether	1900	0	1700	ug/Kg	89				48	110	
2-Chlorophenol	1900	0	1700	ug/Kg	89				39	115	
2-Methylphenol	1900	0	1800	ug/Kg	95				48	111	
2,2-oxybis(1-Chloropropane)	1900	0	1700	ug/Kg	89				43	116	
Acetophenone	1900	0	1600	ug/Kg	84				46	122	
3+4-Methylphenols	1900	0	1600	ug/Kg	84				46	115	
N-Nitroso-di-n-propylamine	1900	0	1800	ug/Kg	95				37	128	
Hexachloroethane	1900	0	1700	ug/Kg	89				37	117	
Nitrobenzene	1900	0	1600	ug/Kg	84				45	117	
Isophorone	1900	0	1700	ug/Kg	89				44	121	
2-Nitrophenol	1900	0	1900	ug/Kg	100				32	123	
2,4-Dimethylphenol	1900	0	1600	ug/Kg	84				45	118	
bis(2-Chloroethoxy)methane	1900	0	1900	ug/Kg	100				47	117	
2,4-Dichlorophenol	1900	0	1700	ug/Kg	89				37	122	
Naphthalene	1900	0	1600	ug/Kg	84				42	121	
4-Chloroaniline	1900	0	700	ug/Kg	37				10	130	
Hexachlorobutadiene	1900	0	1700	ug/Kg	89				49	111	
Caprolactam	1900	0	1700	ug/Kg	89				26	133	
4-Chloro-3-methylphenol	1900	0	1700	ug/Kg	89				46	115	
2-Methylnaphthalene	1900	0	1900	ug/Kg	100				45	118	
Hexachlorocyclopentadiene	3800	0	3300	ug/Kg	87				10	127	
2,4,6-Trichlorophenol	1900	0	1700	ug/Kg	89				36	122	
2,4,5-Trichlorophenol	1900	0	1700	ug/Kg	89				33	125	
1,1-Biphenyl	1900	0	1500	ug/Kg	79				47	119	
2-Chloronaphthalene	1900	0	1600	ug/Kg	84				52	110	
2-Nitroaniline	1900	0	1800	ug/Kg	95				45	121	
Dimethylphthalate	1900	420	1900	ug/Kg	78				39	127	
Acenaphthylene	1900	0	1700	ug/Kg	89				45	117	
2,6-Dinitrotoluene	1900	0	1600	ug/Kg	84				50	114	
3-Nitroaniline	1900	0	1100	ug/Kg	58				12	108	
Acenaphthene	1900	0	1700	ug/Kg	89				45	118	
2,4-Dinitrophenol	3800	0	2600	ug/Kg	68				10	126	
4-Nitrophenol	3800	0	3000	ug/Kg	79				18	141	
Dibenzofuran	1900	0	1900	ug/Kg	100				45	118	
2,4-Dinitrotoluene	1900	0	1900	ug/Kg	100				44	120	
Diethylphthalate	1900	0	1500	ug/Kg	79				50	113	
4-Chlorophenyl-phenylether	1900	0	1600	ug/Kg	84				51	111	
Fluorene	1900	0	1700	ug/Kg	89				41	121	
4-Nitroaniline	1900	0	1500	ug/Kg	79				38	113	
4,6-Dinitro-2-methylphenol	1900	0	1700	ug/Kg	89				10	142	
N-Nitrosodiphenylamine	1900	0	1900	ug/Kg	100				45	122	
4-Bromophenyl-phenylether	1900	0	1900	ug/Kg	100				51	114	
Hexachlorobenzene	1900	0	1900	ug/Kg	100				48	114	
Atrazine	1900	0	2000	ug/Kg	105				40	129	
Pentachlorophenol	3800	0	3200	ug/Kg	84				15	145	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Phenanthrene	1900	0	1800	ug/Kg	95				29	138	
Anthracene	1900	0	1500	ug/Kg	79				45	120	
Carbazole	1900	0	1800	ug/Kg	95				43	122	
Di-n-butylphthalate	1900	0	1800	ug/Kg	95				51	115	
Fluoranthene	1900	0	1500	ug/Kg	79				33	133	
Pyrene	1900	0	1700	ug/Kg	89				31	135	
Butylbenzylphthalate	1900	0	1600	ug/Kg	84				49	121	
3,3-Dichlorobenzidine	1900	0	910	ug/Kg	48				10	105	
Benzo(a)anthracene	1900	0	1600	ug/Kg	84				35	132	
Chrysene	1900	0	1400	ug/Kg	74				34	131	
bis(2-Ethylhexyl)phthalate	1900	0	1500	ug/Kg	79				42	127	
Di-n-octyl phthalate	1900	0	1500	ug/Kg	79				50	123	
Benzo(b)fluoranthene	1900	0	1700	ug/Kg	89				35	128	
Benzo(k)fluoranthene	1900	0	1800	ug/Kg	95				39	117	
Benzo(a)pyrene	1900	0	1800	ug/Kg	95				35	129	
Indeno(1,2,3-cd)pyrene	1900	0	1800	ug/Kg	95				30	140	
Dibenz(a,h)anthracene	1900	0	2100	ug/Kg	111				18	147	
Benzo(g,h,i)perylene	1900	0	2200	ug/Kg	116				31	132	
1,2,4,5-Tetrachlorobenzene	1900	0	1500	ug/Kg	79				52	122	
2,3,4,6-Tetrachlorophenol	1900	0	1800	ug/Kg	95				52	109	

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Lab Sample ID: H1788-01MSD		**Client Sample ID: S9-158-()MSD**						**DataFile: 9F08B62B.D**			
Benzaldehyde	1900	0	570	g/kg	31		3		10	105	u0
ohen6l	1900	0	1800	g/kg	74		0		40	115	u0
bis(u2-hl6Cerhylterhe C	1900	0	1)00	g/kg	79		0		47	110	u0
u2-hl6Cphen6l	1900	0	1)00	g/kg	79		0		39	115	u0
u2Merhylphen6l	1900	0	1700	g/kg	95		0		47	111	u0
u,u26xybis(12-hl6CpCpanet	1900	0	1)00	g/kg	79		0		43	118	u0
Acer6phen6ne	1900	0	1800	g/kg	74		0		48	1uu	u0
3+42Merhylphen6ls	1900	0	1800	g/kg	74		0		48	115	u0
N2NirCs62di2n2pCpylamine	1900	0	1700	g/kg	95		0		3)	1u7	u0
Hexachl6Cerhane	1900	0	1)00	g/kg	79		0		3)	11)	u0
NirCbenzene	1900	0	1800	g/kg	74		0		45	11)	u0
Is6ph6Cne	1900	0	1)00	g/kg	79		0		44	1u1	u0
u2NirCphen6l	1900	0	1900	g/kg	100		0		3u	1u3	u0
u,42Dimerhylphen6l	1900	0	1500	g/kg	)9		8		45	117	u0
bis(u2-hl6Cerh6xytmerhane	1900	0	1900	g/kg	100		0		4)	11)	u0
u,42Dichl6Cphen6l	1900	0	1700	g/kg	95		)		3)	1uu	u0
Naphrhalene	1900	0	1800	g/kg	74		0		4u	1u1	u0
42-hl6Caniline	1900	0	710	g/kg	43		15		10	130	u0
Hexachl6Cbgradiene	1900	0	1)00	g/kg	79		0		49	111	u0
-apCblacram	1900	0	1700	g/kg	95		)		u8	133	u0
42-hl6C232merhylphen6l	1900	0	1)00	g/kg	79		0		48	115	u0
u2Merhylnaphrhalene	1900	0	1900	g/kg	100		0		45	117	u0
Hexachl6Ccycl6penradiene	3700	0	3400	g/kg	79		u		10	1u)	u0
u,4,82TGchl6Cphen6l	1900	0	1)00	g/kg	79		0		38	1uu	u0
u,4,52TGchl6Cphen6l	1900	0	1)00	g/kg	79		0		33	1u5	u0
1,12Biphenyl	1900	0	1500	g/kg	)9		0		4)	119	u0
u2-hl6Cnaphrhalene	1900	0	1)00	g/kg	79		8		5u	110	u0
u2NirCaniline	1900	0	1900	g/kg	100		5		45	1u1	u0
Dimerhylphrhalare	1900	4u0	u000	g/kg	73		8		39	1u)	u0
Acenaphrhylene	1900	0	1)00	g/kg	79		0		45	11)	u0
u,82DinirCr6lgene	1900	0	1700	g/kg	95		1u		50	114	u0
32NirCaniline	1900	0	1u00	g/kg	83		7		1u	107	u0
Acenaphrhene	1900	0	1)00	g/kg	79		0		45	117	u0
u,42DinirCphen6l	3700	0	u700	g/kg	)4		7		10	1u8	u0
42NirCphen6l	3700	0	u900	g/kg	)8		4		17	141	u0
Dibenz6fgCan	1900	0	1900	g/kg	100		0		45	117	u0
u,42DinirCr6lgene	1900	0	1900	g/kg	100		0		44	1u0	u0
Dierhylphrhalare	1900	0	1800	g/kg	74		8		50	113	u0
42-hl6Cphenyl2phenylerhe C	1900	0	1800	g/kg	74		0		51	111	u0
Flg6Cene	1900	0	1700	g/kg	95		)		41	1u1	u0
42NirCaniline	1900	0	1500	g/kg	)9		0		37	113	u0
4,82DinirC62u2merhylphen6l	1900	0	1700	g/kg	95		)		10	14u	u0
N2NirCs6diphenylamine	1900	0	1700	g/kg	95		5		45	1uu	u0
42BCm6phenyl2phenylerhe C	1900	0	1900	g/kg	100		0		51	114	u0
Hexachl6Cbenzene	1900	0	1900	g/kg	100		0		47	114	u0
ArCazine	1900	0	1700	g/kg	95		10		40	1u9	u0
oenrachl6Cphen6l	3700	0	3u00	g/kg	74		0		15	145	u0

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Matrix Spike/Matrix Spike Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: SW8270D

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
ohenanrhCene	1900	0	1700	g/ KP /	95		0		u9	137	u0
AnrhCacene	1900	0	1500	g/ KP /	) 9		0		45	1u0	u0
- aCbaz6le	1900	0	1700	g/ KP /	95		0		43	1uu	u0
Di2n2bgrylphrhalare	1900	0	1700	g/ KP /	95		0		51	115	u0
Flg6Canrhene	1900	0	1800	g/ KP /	74		8		33	133	u0
oyCene	1900	0	1) 00	g/ KP /	79		0		31	135	u0
Bgrylbenzylphrhalare	1900	0	1800	g/ KP /	74		0		49	1u1	u0
3,32Dichl6C6benzidine	1900	0	9u0	g/ KP /	47		0		10	105	u0
Benz6(atanrhCacene	1900	0	1800	g/ KP /	74		0		35	13u	u0
- hCysene	1900	0	1400	g/ KP /	) 4		0		34	131	u0
bis(u2Erhylhexyltphrhalare	1900	0	1500	g/ KP /	) 9		0		4u	1u)	u0
Di2n26cryl phrhalare	1900	0	1500	g/ KP /	) 9		0		50	1u3	u0
Benz6(btflg6Canrhene	1900	0	1700	g/ KP /	95		)		35	1u7	u0
Benz6(ktflg6Canrhene	1900	0	1900	g/ KP /	100		5		39	11)	u0
Benz6(atpyCene	1900	0	1700	g/ KP /	95		0		35	1u9	u0
Inden6(1,u,32cdtpyCene	1900	0	1800	g/ KP /	74		1u		30	140	u0
Dibenz(a,htanrhCacene	1900	0	u000	g/ KP /	105		8		17	14)	u0
Benz6(/ ,h,itpeCylene	1900	0	u000	g/ KP /	105		10		31	13u	u0
1,u,4,52TerCachl6C6benzene	1900	0	1500	g/ KP /	) 9		0		5u	1uu	u0
u,3,4,82TerCachl6C6phen6l	1900	0	1700	g/ KP /	95		0		5u	109	u0

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D **DataFile:** BF085504.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88925BS	Benzaldehyde	1700	480	ug/Kg	28				10	95	
	Phenol	1700	1600	ug/Kg	94				51	101	
	bis(2-Chloroethyl)ether	1700	1500	ug/Kg	88				55	99	
	2-Chlorophenol	1700	1500	ug/Kg	88				53	100	
	2-Methylphenol	1700	1400	ug/Kg	82				49	105	
	2,2-oxybis(1-Chloropropane)	1700	1300	ug/Kg	76				52	104	
	Acetophenone	1700	1200	ug/Kg	71				50	111	
	3+4-Methylphenols	1700	1600	ug/Kg	94				52	102	
	N-Nitroso-di-n-propylamine	1700	1400	ug/Kg	82				51	104	
	Hexachloroethane	1700	1400	ug/Kg	82				54	97	
	Nitrobenzene	1700	1400	ug/Kg	82				51	104	
	Isophorone	1700	1400	ug/Kg	82				55	101	
	2-Nitrophenol	1700	1400	ug/Kg	82				52	105	
	2,4-Dimethylphenol	1700	1500	ug/Kg	88				53	103	
	bis(2-Chloroethoxy)methane	1700	1300	ug/Kg	76				55	101	
	2,4-Dichlorophenol	1700	1500	ug/Kg	88				54	103	
	Naphthalene	1700	1300	ug/Kg	76				53	103	
	4-Chloroaniline	1700	350	ug/Kg	21				10	130	
	Hexachlorobutadiene	1700	1300	ug/Kg	76				50	106	
	Caprolactam	1700	1500	ug/Kg	88				49	106	
	4-Chloro-3-methylphenol	1700	1500	ug/Kg	88				55	101	
	2-Methylnaphthalene	1700	1500	ug/Kg	88				55	102	
	Hexachlorocyclopentadiene	3300	2300	ug/Kg	70				38	122	
	2,4,6-Trichlorophenol	1700	1400	ug/Kg	82				56	103	
	2,4,5-Trichlorophenol	1700	1500	ug/Kg	88				56	103	
	1,1-Biphenyl	1700	1300	ug/Kg	76				56	107	
	2-Chloronaphthalene	1700	1400	ug/Kg	82				56	102	
	2-Nitroaniline	1700	1600	ug/Kg	94				54	103	
	Dimethylphthalate	1700	1400	ug/Kg	82				61	111	
	Acenaphthylene	1700	1400	ug/Kg	82				57	101	
	2,6-Dinitrotoluene	1700	1300	ug/Kg	76				59	100	
	3-Nitroaniline	1700	880	ug/Kg	52				10	130	
	Acenaphthene	1700	1500	ug/Kg	88				57	102	
	2,4-Dinitrophenol	3300	2200	ug/Kg	67				32	114	
	4-Nitrophenol	3300	2800	ug/Kg	85				48	114	
	Dibenzofuran	1700	1600	ug/Kg	94				57	100	
	2,4-Dinitrotoluene	1700	1600	ug/Kg	94				58	102	
	Diethylphthalate	1700	1400	ug/Kg	82				56	101	
	4-Chlorophenyl-phenylether	1700	1300	ug/Kg	76				57	101	
	Fluorene	1700	1500	ug/Kg	88				57	101	
	4-Nitroaniline	1700	1400	ug/Kg	82				49	99	
	4,6-Dinitro-2-methylphenol	1700	1200	ug/Kg	71				44	119	
	N-Nitrosodiphenylamine	1700	1600	ug/Kg	94				57	103	
	4-Bromophenyl-phenylether	1700	1500	ug/Kg	88				57	105	
	Hexachlorobenzene	1700	1600	ug/Kg	94				54	106	
	Atrazine	1700	1900	ug/Kg	112				50	113	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D **DataFile:** BF085504.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88925BS	Pentachlorophenol	3300	3400	ug/Kg	103				49	116	
	Phenanthrene	1700	1500	ug/Kg	88				58	101	
	Anthracene	1700	1500	ug/Kg	88				57	102	
	Carbazole	1700	1600	ug/Kg	94				57	102	
	Di-n-butylphthalate	1700	1700	ug/Kg	100				57	103	
	Fluoranthene	1700	1600	ug/Kg	94				56	102	
	Pyrene	1700	1600	ug/Kg	94				56	106	
	Butylbenzylphthalate	1700	1700	ug/Kg	100				57	106	
	3,3-Dichlorobenzidine	1700	890	ug/Kg	52				10	92	
	Benzo(a)anthracene	1700	1400	ug/Kg	82				56	103	
	Chrysene	1700	1500	ug/Kg	88				58	102	
	bis(2-Ethylhexyl)phthalate	1700	1800	ug/Kg	106				57	106	
	Di-n-octyl phthalate	1700	2100	ug/Kg	124		*		56	107	
	Benzo(b)fluoranthene	1700	1500	ug/Kg	88				56	103	
	Benzo(k)fluoranthene	1700	1300	ug/Kg	76				55	102	
	Benzo(a)pyrene	1700	1500	ug/Kg	88				57	103	
	Indeno(1,2,3-cd)pyrene	1700	1700	ug/Kg	100				50	113	
	Dibenz(a,h)anthracene	1700	1500	ug/Kg	88				52	119	
	Benzo(g,h,i)perylene	1700	1400	ug/Kg	82				56	105	
	1,2,4,5-Tetrachlorobenzene	1700	1200	ug/Kg	71				33	136	
	2,3,4,6-Tetrachlorophenol	1700	1600	ug/Kg	94				47	120	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D **DataFile:** BF085548.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88949BS	Benzaldehyde	50	10.7	ug/L	21				10	109	
	Phenol	50	46.4	ug/L	93				10	130	
	bis(2-Chloroethyl)ether	50	43.7	ug/L	87				46	116	
	2-Chlorophenol	50	42.5	ug/L	85				40	105	
	2-Methylphenol	50	40.7	ug/L	81				32	94	
	2,2-oxybis(1-Chloropropane)	50	39.6	ug/L	79				60	113	
	Acetophenone	50	38.5	ug/L	77				64	120	
	3+4-Methylphenols	50	43.5	ug/L	87				24	91	
	N-Nitroso-di-n-propylamine	50	38.2	ug/L	76				61	115	
	Hexachloroethane	50	39.9	ug/L	80				52	104	
	Nitrobenzene	50	43.2	ug/L	86				49	120	
	Isophorone	50	40.3	ug/L	81				65	114	
	2-Nitrophenol	50	42.8	ug/L	86				57	116	
	2,4-Dimethylphenol	50	40.3	ug/L	81				43	108	
	bis(2-Chloroethoxy)methane	50	41.9	ug/L	84				65	111	
	2,4-Dichlorophenol	50	43.8	ug/L	88				49	113	
	Naphthalene	50	39.5	ug/L	79				61	107	
	4-Chloroaniline	50	13.6	ug/L	27				10	93	
	Hexachlorobutadiene	50	38.2	ug/L	76				35	120	
	Caprolactam	50	42.7	ug/L	85				10	130	
	4-Chloro-3-methylphenol	50	41.8	ug/L	84				51	109	
	2-Methylnaphthalene	50	45.1	ug/L	90				63	110	
	Hexachlorocyclopentadiene	100	92.7	ug/L	93				42	121	
	2,4,6-Trichlorophenol	50	42.8	ug/L	86				62	114	
	2,4,5-Trichlorophenol	50	42.7	ug/L	85				58	116	
	1,1-Biphenyl	50	36.4	ug/L	73				65	117	
	2-Chloronaphthalene	50	38.5	ug/L	77				65	111	
	2-Nitroaniline	50	44.9	ug/L	90				63	119	
	Dimethylphthalate	50	42.6	ug/L	85				68	112	
	Acenaphthylene	50	42.4	ug/L	85				65	110	
	2,6-Dinitrotoluene	50	42.7	ug/L	85				68	115	
	3-Nitroaniline	50	22.3	ug/L	45				16	104	
	Acenaphthene	50	46.7	ug/L	93				66	114	
	2,4-Dinitrophenol	100	76.2	ug/L	76				35	129	
	4-Nitrophenol	100	70.8	ug/L	71				10	130	
	Dibenzofuran	50	48.6	ug/L	97				66	111	
	2,4-Dinitrotoluene	50	41.4	ug/L	83				65	119	
	Diethylphthalate	50	41.2	ug/L	82				66	116	
	4-Chlorophenyl-phenylether	50	42.5	ug/L	85				66	113	
	Fluorene	50	43.9	ug/L	88				66	112	
	4-Nitroaniline	50	42.3	ug/L	85				53	115	
	4,6-Dinitro-2-methylphenol	50	40.8	ug/L	82				47	137	
	N-Nitrosodiphenylamine	50	41.8	ug/L	84				65	116	
	4-Bromophenyl-phenylether	50	43.5	ug/L	87				66	119	
	Hexachlorobenzene	50	43.8	ug/L	88				57	121	
	Atrazine	50	50.4	ug/L	101				53	130	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8270D **DataFile:** BF085548.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88949BS	Pentachlorophenol	100	84.5	ug/L	85				51	128	
	Phenanthrene	50	44.5	ug/L	89				68	112	
	Anthracene	50	39	ug/L	78				69	112	
	Carbazole	50	45.1	ug/L	90				65	115	
	Di-n-butylphthalate	50	43.4	ug/L	87				67	117	
	Fluoranthene	50	38.8	ug/L	78				67	115	
	Pyrene	50	35.2	ug/L	70				67	116	
	Butylbenzylphthalate	50	35.8	ug/L	72				66	121	
	3,3-Dichlorobenzidine	50	14.6	ug/L	29				13	119	
	Benzo(a)anthracene	50	38.2	ug/L	76				64	117	
	Chrysene	50	34.3	ug/L	69				65	116	
	bis(2-Ethylhexyl)phthalate	50	36.8	ug/L	74				61	123	
	Di-n-octyl phthalate	50	42	ug/L	84				63	123	
	Benzo(b)fluoranthene	50	39.7	ug/L	79				62	122	
	Benzo(k)fluoranthene	50	47	ug/L	94				60	123	
	Benzo(a)pyrene	50	44.2	ug/L	88				65	118	
	Indeno(1,2,3-cd)pyrene	50	36.7	ug/L	73				50	133	
	Dibenz(a,h)anthracene	50	39.9	ug/L	80				45	150	
	Benzo(g,h,i)perylene	50	39.1	ug/L	78				64	123	
	1,2,4,5-Tetrachlorobenzene	50	35.8	ug/L	72				60	105	
	2,3,4,6-Tetrachlorophenol	50	46.1	ug/L	92				66	110	

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SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88925BL

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085503.D Lab Sample ID: PB88925BL

Instrument ID: BNA_F Date Extracted: 03/16/2016

Matrix: (soil/water) SOIL Date Analyzed: 03/17/2016

Level: (low/med) LOW Time Analyzed: 20:51

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB88925BS	PB88925BS	BF085504.D	03/17/2016
SB-1(8-9)	H1788-01	BF085576.D	03/19/2016
SB-2(8-9)	H1788-02	BF085579.D	03/19/2016
SB-3(7-8)	H1788-03	BF085580.D	03/19/2016
SB-4(7-8)	H1788-04	BF085581.D	03/19/2016
SB-5(9-10)	H1788-05	BF085582.D	03/19/2016
SB-1(8-9)MS	H1788-01MS	BF085624.D	03/21/2016
SB-1(8-9)MSD	H1788-01MSD	BF085625.D	03/21/2016

COMMENTS:

Form IV SV

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88949BL

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085547.D Lab Sample ID: PB88949BL

Instrument ID: BNA_F Date Extracted: 03/17/2016

Matrix: (soil/water) Water Date Analyzed: 03/19/2016

Level: (low/med) LOW Time Analyzed: 01:57

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
TW-1	H1788-06	BF085555.D	03/19/2016
TW-2	H1788-07	BF085556.D	03/19/2016
TW-4	H1788-08	BF085557.D	03/19/2016
TW-5	H1788-09	BF085558.D	03/19/2016
GRID-8A-(0-10)MS	H1790-05MS	BF085597.D	03/20/2016
GRID-8A-(0-10)MSD	H1790-05MSD	BF085598.D	03/20/2016
PB88949BS	PB88949BS	BF085548.D	03/19/2016

COMMENTS:

Form IV SV

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085452.D DFTPP Injection Date: 03/15/2016

Instrument ID: BNA_F DFTPP Injection Time: 13:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	38.4
68	Less than 2.0% of mass 69	0.5 (1.4) 1
69	Mass 69 relative abundance	37.8
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	53.9
197	Less than 2.0% of mass 198	0.7
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	22.5
365	Greater than 1% of mass 198	2.7
441	Present, but less than mass 443	11.8
442	Greater than 50% of mass 198	78.6
443	15.0 - 24.0% of mass 442	14.9 (19) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC02.5	SSTDICC02.5	BF085454.D	03/15/2016	14:21
SSTDICC010	SSTDICC010	BF085455.D	03/15/2016	14:50
SSTDICC025	SSTDICC025	BF085456.D	03/15/2016	15:18
SSTDICCC040	SSTDICCC040	BF085457.D	03/15/2016	15:46
SSTDICC050	SSTDICC050	BF085458.D	03/15/2016	16:14
SSTDICC060	SSTDICC060	BF085459.D	03/15/2016	16:43
SSTDICC080	SSTDICC080	BF085460.D	03/15/2016	17:11

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085497.D DFTPP Injection Date: 03/17/2016

Instrument ID: BNA_F DFTPP Injection Time: 11:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.4
68	Less than 2.0% of mass 69	0.6 (1.8) 1
69	Mass 69 relative abundance	33.4
70	Less than 2.0% of mass 69	0.3 (1) 1
127	10.0 - 80.0% of mass 198	49.7
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	24.9
365	Greater than 1% of mass 198	3.1
441	Present, but less than mass 443	14.5
442	Greater than 50% of mass 198	95.4
443	15.0 - 24.0% of mass 442	17.9 (18.8) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085498.D	03/17/2016	18:28
PB88925BL	PB88925BL	BF085503.D	03/17/2016	20:51
PB88925BS	PB88925BS	BF085504.D	03/17/2016	21:19

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085535.D DFTPP Injection Date: 03/18/2016

Instrument ID: BNA_F DFTPP Injection Time: 15:14

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.1
68	Less than 2.0% of mass 69	0.6 (1.9) 1
69	Mass 69 relative abundance	34.7
70	Less than 2.0% of mass 69	0.4 (1.2) 1
127	10.0 - 80.0% of mass 198	51
197	Less than 2.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	24.4
365	Greater than 1% of mass 198	2.9
441	Present, but less than mass 443	12.9
442	Greater than 50% of mass 198	84
443	15.0 - 24.0% of mass 442	16.2 (19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC02.5	SSTDICC02.5	BF085537.D	03/18/2016	17:19
SSTDICC010	SSTDICC010	BF085538.D	03/18/2016	17:47
SSTDICC025	SSTDICC025	BF085539.D	03/18/2016	18:16
SSTDICCC040	SSTDICCC040	BF085540.D	03/18/2016	18:44
SSTDICC050	SSTDICC050	BF085541.D	03/18/2016	19:13
SSTDICC060	SSTDICC060	BF085542.D	03/18/2016	19:41
SSTDICC080	SSTDICC080	BF085543.D	03/18/2016	20:10

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085545.D DFTPP Injection Date: 03/19/2016

Instrument ID: BNA_F DFTPP Injection Time: 01:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.7 (1.8) 1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	53.7
197	Less than 2.0% of mass 198	0.0
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	24.3
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	11.3
442	Greater than 50% of mass 198	74.6
443	15.0 - 24.0% of mass 442	14.3 (19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085546.D	03/19/2016	01:29
PB88949BL	PB88949BL	BF085547.D	03/19/2016	01:57
PB88949BS	PB88949BS	BF085548.D	03/19/2016	02:26
TW-1	H1788-06	BF085555.D	03/19/2016	05:40
TW-2	H1788-07	BF085556.D	03/19/2016	06:07
TW-4	H1788-08	BF085557.D	03/19/2016	06:35
TW-5	H1788-09	BF085558.D	03/19/2016	07:03

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085570.D DFTPP Injection Date: 03/19/2016

Instrument ID: BNA_F DFTPP Injection Time: 14:00

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	0.7 (2) 1
69	Mass 69 relative abundance	34.3
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	51.7
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	24.3
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	12.1
442	Greater than 50% of mass 198	77.5
443	15.0 - 24.0% of mass 442	15.1 (19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085571.D	03/19/2016	14:27
SB-1(8-9)	H1788-01	BF085576.D	03/19/2016	16:46
SB-2(8-9)	H1788-02	BF085579.D	03/19/2016	18:09
SB-3(7-8)	H1788-03	BF085580.D	03/19/2016	18:37
SB-4(7-8)	H1788-04	BF085581.D	03/19/2016	19:04
SB-5(9-10)	H1788-05	BF085582.D	03/19/2016	19:32

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SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085594.D DFTPP Injection Date: 03/20/2016

Instrument ID: BNA_F DFTPP Injection Time: 02:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	35.6
68	Less than 2.0% of mass 69	0.6 (1.6) 1
69	Mass 69 relative abundance	34.9
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	51.8
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	23.3
365	Greater than 1% of mass 198	2.4
441	Present, but less than mass 443	12
442	Greater than 50% of mass 198	79.6
443	15.0 - 24.0% of mass 442	15.3 (19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085595.D	03/20/2016	03:25
GRID-8A-(0-10)MS	H1790-05MS	BF085597.D	03/20/2016	04:48
GRID-8A-(0-10)MSD	H1790-05MSD	BF085598.D	03/20/2016	05:16

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1788 SDG NO.: H1788

Lab File ID: BF085616.D DFTPP Injection Date: 03/21/2016

Instrument ID: BNA_F DFTPP Injection Time: 11:17

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	35.6
68	Less than 2.0% of mass 69	0.5 (1.3) 1
69	Mass 69 relative abundance	36.5
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	52.6
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	23.5
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	11.3
442	Greater than 50% of mass 198	74.8
443	15.0 - 24.0% of mass 442	14.2 (19) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085617.D	03/21/2016	12:48
SB-1(8-9)MS	H1788-01MS	BF085624.D	03/21/2016	16:09
SB-1(8-9)MSD	H1788-01MSD	BF085625.D	03/21/2016	16:41

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/17/2016

Lab File ID: BF085498.D Time Analyzed: 18:28

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	147173	6.88	573048	8.16	273936	9.92
	UPPER LIMIT	294346	7.38	1146100	8.66	547872	10.42
	LOWER LIMIT	73586.5	6.38	286524	7.66	136968	9.42
	EPA SAMPLE NO.						
01	PB88925BL	136727	6.87	596046	8.16	247432	9.91
02	PB88925BS	144965	6.88	597118	8.16	274188	9.92

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/17/2016

Lab File ID: BF085498.D Time Analyzed: 18:28

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	509418	11.41	368176	14.04	297800	15.48
	UPPER LIMIT	1018840	11.91	736352	14.54	595600	15.98
	LOWER LIMIT	254709	10.91	184088	13.54	148900	14.98
	EPA SAMPLE NO.						
01	PB88925BL	449935	11.40	303502	14.04	249444	15.47
02	PB88925BS	482436	11.41	308611	14.04	261488	15.48

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085546.D Time Analyzed: 01:29

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	146217	6.86	579489	8.14	282168	9.90
	UPPER LIMIT	292434	7.36	1158980	8.64	564336	10.4
	LOWER LIMIT	73108.5	6.36	289745	7.64	141084	9.4
	EPA SAMPLE NO.						
01	PB88949BL	126397	6.85	538401	8.14	238059	9.89
02	PB88949BS	124095	6.86	496573	8.14	234660	9.9
03	TW-1	126793	6.85	531753	8.14	231404	9.89
04	TW-2	127874	6.85	543172	8.14	242359	9.89
05	TW-4	128296	6.85	544981	8.14	239066	9.89
06	TW-5	119843	6.85	520819	8.14	231288	9.89

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085546.D Time Analyzed: 01:29

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	526834	11.37	433190	14.01	377584	15.44
	UPPER LIMIT	1053670	11.87	866380	14.51	755168	15.94
	LOWER LIMIT	263417	10.87	216595	13.51	188792	14.94
	EPA SAMPLE NO.						
01	PB88949BL	487749	11.37	417471	14.00	375014	15.43
02	PB88949BS	440338	11.37	377371	14.01	299366	15.44
03	TW-1	467059	11.37	376942	14.00	315789	15.43
04	TW-2	478247	11.37	371689	14.00	309266	15.43
05	TW-4	467998	11.37	373247	14.00	304257	15.43
06	TW-5	452376	11.37	351406	14.00	295516	15.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085571.D Time Analyzed: 14:27

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	145643	6.86	584289	8.14	271074	9.90
	UPPER LIMIT	291286	7.36	1168580	8.64	542148	10.4
	LOWER LIMIT	72821.5	6.36	292145	7.64	135537	9.4
	EPA SAMPLE NO.						
01	SB-1(8-9)	127674	6.85	532413	8.14	236415	9.89
02	SB-2(8-9)	117387	6.85	487747	8.14	212734	9.89
03	SB-3(7-8)	122932	6.85	532814	8.14	232418	9.89
04	SB-4(7-8)	126588	6.85	523954	8.14	230384	9.89
05	SB-5(9-10)	122467	6.85	516151	8.14	209864	9.89

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085571.D Time Analyzed: 14:27

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	490647	11.37	368515	14.01	271028	15.43
	UPPER LIMIT	981294	11.87	737030	14.51	542056	15.93
	LOWER LIMIT	245324	10.87	184258	13.51	135514	14.93
	EPA SAMPLE NO.						
01	SB-1(8-9)	459884	11.37	308596	14.00	236207	15.43
02	SB-2(8-9)	403033	11.37	253984	14.00	200359	15.43
03	SB-3(7-8)	454976	11.37	308739	14.00	230352	15.43
04	SB-4(7-8)	454015	11.37	294098	14.00	228238	15.43
05	SB-5(9-10)	385352	11.37	233660	14.00	232701	15.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/20/2016

Lab File ID: BF085595.D Time Analyzed: 03:25

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	150126	6.86	582458	8.14	265380	9.90
	UPPER LIMIT	300252	7.36	1164920	8.64	530760	10.4
	LOWER LIMIT	75063	6.36	291229	7.64	132690	9.4
	EPA SAMPLE NO.						
01	GRID-8A-(0-10)MS	126016	6.86	492041	8.14	212182	9.9
02	GRID-8A-(0-10)MSD	132782	6.86	513795	8.14	231547	9.9

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/20/2016

Lab File ID: BF085595.D Time Analyzed: 03:25

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	423575	11.37	305793	14.01	287520	15.44
	UPPER LIMIT	847150	11.87	611586	14.51	575040	15.94
	LOWER LIMIT	211788	10.87	152897	13.51	143760	14.94
	EPA SAMPLE NO.						
01	GRID-8A-(0-10)MS	344423	11.37	236359	14.01	237405	15.44
02	GRID-8A-(0-10)MSD	362001	11.37	250644	14.01	253970	15.44

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1488 SAS No.: H1488 SDG NO.: H1488

EPA Sample No.: SSTDCCC575 Date Analyzed: 53/21/2516

Lab File ID: BF589614.D Time Analyzed: 12:78

Instrument ID: BNA_F GC Column: RTX-9 ID: 5.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	145826	6.89	641589	8.13	323171	0.80
	UPPER LIMIT	371692	4.39	1372145	8.63	676282	15.30
	LOWER LIMIT	89713	6.39	339973	4.63	161941	0.30
	EPA SAMPLE NO.						
51	SB-1(8-0)MS	130193	6.89	992231	8.13	269480	0.80
52	SB-1(8-0)MSD	171650	6.89	998682	8.13	266678	0.80

IS1 (DCB) = 1,7-Dichlorobenzene-d7
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d15

AREA UPPER LIMIT = +155% of internal standard area
AREA LOWER LIMIT = -95% of internal standard area
RT UPPER LIMIT = +5.95 minutes of internal standard RT
RT UPPER LIMIT = -5.95 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/21/2016

Lab File ID: BF085617.D Time Analyzed: 12:48

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	606008	11.37	387991	14	299083	15.42
	UPPER LIMIT	1212020	11.87	775982	14.5	598166	15.92
	LOWER LIMIT	303004	10.87	193996	13.5	149542	14.92
	EPA SAMPLE NO.						
01	SB-1(8-9)MS	473044	11.36	330602	14.00	236899	15.42
02	SB-1(8-9)MSD	505835	11.36	372419	14.00	253801	15.42

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

CHEMTECH 8(z Sheffield Street, Mountainside, NT7H798 Phone: 97(H(9 (977 Fax: 97(H(9 (988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BL	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BL	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.78 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	Qest:	SV2 CMS Group1
Extraction Qype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 74.D	1	74/1O/1O7(:) (	74/1H/1O87:) 1	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
177-) 8-H	Ben6aldehyde	44.4	5	1Hz	44.4	447	ug/Kg
17(-9) -8	Phenol	44.4	5	HH	44.4	447	ug/Kg
111-zz-z	bisf8-ChloroethylJether	44.4	5	1O	44.4	447	ug/Kg
9) -) H-(	8-Chlorophenol	44.4	5	1HO	44.4	447	ug/Kg
9) -z(-H	8-Methylphenol	44.4	5	1(.1	44.4	447	ug/Kg
17(-O7-1	8,8-oxybisf1-ChloropropaneJ	44.4	5	14.(	44.4	447	ug/Kg
9(-(O-8	Acetophenone	44.4	5	17.8	44.4	447	ug/Kg
O) H-9z-9O-9	4+z-Methylphenols	44.4	5	1H4	44.4	447	ug/Kg
O81-Oz-H	n-Nitroso-di-n-propylamine	44.4	5	1O.(	44.4	447	ug/Kg
OH-H8-1	0 exachloroethane	44.4	5	1z.9	44.4	447	ug/Kg
9(-9) -4	Nitroben6ene	44.4	5	18.O	44.4	447	ug/Kg
H(-) 9-1	Isophorone	44.4	5	11	44.4	447	ug/Kg
((-H) -)	8-Nitrophenol	44.4	5	1O.1	44.4	447	ug/Kg
17) -OH-9	8,z-Dimethylphenol	44.4	5	1(.9	44.4	447	ug/Kg
111-91-1	bisf8-ChloroethoxyJmethane	44.4	5	19.8	44.4	447	ug/Kg
187-(4-8	8,z-Dichlorophenol	44.4	5	18.H	44.4	447	ug/Kg
91-87-4	Naphthalene	44.4	5	11.)	44.4	447	ug/Kg
17O-zH-(	z-Chloroaniline	44.4	5	84.)	44.4	447	ug/Kg
(H-O(-4	0 exachlorobutadiene	44.4	5	18.1	44.4	447	ug/Kg
17) -O7-8	Caprolactam	OO.O	5	1) .)	OO.O	447	ug/Kg
) 9-) 7-H	z-Chloro-4-methylphenol	44.4	5	1z.(	44.4	447	ug/Kg
91-) H-O	8-Methylnaphthalene	44.4	5	(.z	44.4	447	ug/Kg
HH-zH-z	0 exachlorocyclopentadiene	44.4	5	(.1	44.4	447	ug/Kg
((-7O-8	8,z,O-Qrichlorophenol	44.4	5	17.8	44.4	447	ug/Kg
9) -9) -z	8,z,) -Qrichlorophenol	44.4	5	84.z	44.4	447	ug/Kg
98-) 8-z	1,1-Biphenyl	44.4	5	18.O	44.4	447	ug/Kg
91-) (-H	8-Chloronaphthalene	44.4	5	HO	44.4	447	ug/Kg
((-Hz-z	8-Nitroaniline	44.4	5	1z.(	44.4	447	ug/Kg
141-11-4	Dimethylphthalate	44.4	5	9	44.4	447	ug/Kg
87(-9O-(	Acenaphthylene	44.4	5	(.z	44.4	447	ug/Kg
O7O-87-8	8,O-Dinitrotoluene	44.4	5	14.O	44.4	447	ug/Kg

CHEMTECH 8(z Sheffield Street, Mountainside, NT7H798 Phone: 97(H(9 (977 Fax: 97(H(9 (988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BL	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BL	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.78 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	Qest:	SV2 CMS Group1
Extraction Qype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 74.D	1	74/1O/1O7(:) (	74/1H/1O87:) 1	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-79-8	4-Nitroaniline	OO.O	5	81.z	OO.O	447	ug/Kg
(4-48-9	Acenaphthene	44.4	5	9.z	44.4	447	ug/Kg
) 1-8(-)	8,z-Dinitrophenol	8H7	5	44.9	8H7	447	ug/Kg
177-78-H	z-Nitrophenol	1H7	5	O1.9	1H7	447	ug/Kg
148-Oz-9	Diben6oUran	44.4	5	14	44.4	447	ug/Kg
181-1z-8	8,z-Dinitrotoluene	44.4	5	17	44.4	447	ug/Kg
(z-OO-8	Diethylphthalate	44.4	5	) .8	44.4	447	ug/Kg
H77) -H8-4	z-Chlorophenyl-phenylether	44.4	5	1(.1	44.4	447	ug/Kg
(O-H4-H	Fluorene	44.4	5	18.O	44.4	447	ug/Kg
177-71-O	z-Nitroaniline	OO.O	5	z4.z	OO.O	447	ug/Kg
) 4z-) 8-1	z,O-Dinitro-8-methylphenol	1H7	5	19.1	1H7	447	ug/Kg
(O-47-O	n-Nitrosodiphenylamine	44.4	5	(	44.4	447	ug/Kg
171-)) -4	z-Bromophenyl-phenylether	44.4	5	O.)	44.4	447	ug/Kg
11(-Hz-1	0 exachloroben6ene	44.4	5	14.O	44.4	447	ug/Kg
1918-8z-9	Atra6ine	44.4	5	1HO	44.4	447	ug/Kg
(H-(O-)	Pentachlorophenol	44.4	5	88.(	44.4	447	ug/Kg
( ) -71-(	Phenanthrene	44.4	5	9	44.4	447	ug/Kg
187-18-H	Anthracene	44.4	5	O.(	44.4	447	ug/Kg
(O-Hz-(	Carba6ole	44.4	5	H4	44.4	447	ug/Kg
(z-Hz-8	Di-n-butylphthalate	44.4	5	8O.8	44.4	447	ug/Kg
87O-zz-7	Fluoranthene	44.4	5	O.H	44.4	447	ug/Kg
189-77-7	Pyrene	44.4	5	(	44.4	447	ug/Kg
( ) -O(-H	Butylben6ylphthalate	44.4	5	1O	44.4	447	ug/Kg
91-9z-1	4,4-Dichloroben6idine	44.4	5	81.z	44.4	447	ug/Kg
) O-)) -4	Ben6ofaJanthracene	44.4	5	1) .9	44.4	447	ug/Kg
81(-71-9	Chrysene	44.4	5	1) .1	44.4	447	ug/Kg
11H-(1-H	Bisf8-ethylhexylJphthalate	44.4	5	11.(	44.4	447	ug/Kg
11H-(z-7	Di-n-octyl phthalate	44.4	5	4.(	44.4	447	ug/Kg
87) -99-8	Ben6ofbJUuoranthene	44.4	5	17.9	44.4	447	ug/Kg
87H-7(-9	Ben6ofkJUuoranthene	44.4	5	1) .H	44.4	447	ug/Kg
) 7-48-(	Ben6ofaJpyrene	44.4	5	H8	44.4	447	ug/Kg
194-49-)	Indenof1,8,4-cdJpyrene	44.4	5	11.1	44.4	447	ug/Kg
) 4-H7-4	Diben6ofa,hJanthracene	44.4	5	9.O	44.4	447	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BL	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BL	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.78 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	Qest:	SV2 CMS Group1
Extraction Qype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 74.D	1	74/1O/1O7(:) (	74/1H/1O87:) 1	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-8z-8	Ben6ofg,h,iJperylene	44.4	5	14.)	44.4	447	ug/Kg
9) -9z-4	1,8,z,) -Qetrachloroben6ene	44.4	5	14.1	44.4	447	ug/Kg
) (-97-8	8,4,z,O-Qetrachlorophenol	44.4	5	14.1	44.4	447	ug/Kg
SURROGATES							
4OH-18-z	8-Fluorophenol	117		8(- 18H		H7%	SPK: 1) 7
1418H-((-4	Phenol-dO	99.8		4z - 18H		OO%	SPK: 1) 7
z1O) -O7-7	Nitroben6ene-d)	Hz		41 - 148		Hz%	SPK: 177
481-O7-(	8-Fluorobiphenyl	H(		49 - 184		H(%	SPK: 177
11(-H9-O	8,z,O-Qribromophenol	117		47 - 144		H) %	SPK: 1) 7
1H1(-) 1-7	Qerphenyl-d1z	H4.)		4H- 11)		H4%	SPK: 177
INTERNAL STANDARDS							
4( )) -(8-1	1,z-Dichloroben6ene-dz	14OH8H		O(H			
11zO-O) -8	Naphthalene-d(	) 9O7zO		(.1O			
1) 7OH-8O-8	Acenaphthene-d17	8zHz48		9.91			
1) 1H-88-8	Phenanthrene-d17	zz994)		11.z			
1H19-74-)	Chrysene-d18	474) 78		1z.7z			
1) 87-9O-4	Perylene-d18	8z9zzz		1) .zH			

5 = Not Detected
L2 3 = Limit oU3 uantitation
MDL = Method Detection Limit
L2 D = Limit oUDetection
E = Value Exceeds Calibration Range
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence oUa Compound
* = Values outside oU3 C limits
D = Dilution
fJ = Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB559(9BL	SDG No.:	7 1) 55
Lab Sample ID:	PB559(9BL	Matrix:	Water
Analytical Method:	SW50) H	% Moisture:	1HH
Sample Wt/Vol:	1HHH Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	zest:	SVQCMS Group1
Extraction zype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/8 c Batch:	Dilution:	Prep Date	Date Analy2ed	Prep Batch ID
BFH544( ) .D	1	H3/1) /16 H9:3H	H3/19/16 H1:4)	PB559(9

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1HH-40-)	Ben2aldehyde	1	O	H))	1	1H	ug/L
1H5-94-0	Phenol	1	O	H01	1	1H	ug/L
111-((-(	bisf0-ChloroethylJether	1	O	H44	1	1H	ug/L
94-4) -5	0-Chlorophenol	1	O	H4(	1	1H	ug/L
94-(5-)	0-Methylphenol	1	O	H0(	1	1H	ug/L
1H5-6H-1	0,0-oxybisf1-ChloropropaneJ	1	O	H1)	1	1H	ug/L
95-56-0	Acetophenone	1	O	H1(	1	1H	ug/L
64) 9(-96-9	3+(-Methylphenols	1	O	H35	1	1H	ug/L
601-6(-)	n-Nitroso-di-n-propylamine	1	O	H0	1	1H	ug/L
6) -) 0-1	7 exachloroethane	1	O	H04	1	1H	ug/L
95-94-3	Nitroben2ene	1	O	H65	1	1H	ug/L
) 5-49-1	Isophorone	1	O	H3	1	1H	ug/L
55-) 4-4	0-Nitrophenol	1	O	H40	1	1H	ug/L
1H4-6) -9	0,(-Dimethylphenol	1	O	H) 1	1	1H	ug/L
111-91-1	bisf0-ChloroethoxyJmethane	1	O	H44	1	1H	ug/L
10H-53-0	0,(-Dichlorophenol	1	O	H66	1	1H	ug/L
91-0H-3	Naphthalene	1	O	H10	1	1H	ug/L
1H6-( ) -5	(-Chloroaniline	1	O	1	1	1H	ug/L
5) -65-3	7 exachlorobutadiene	1	O	H04	1	1H	ug/L
1H4-6H-0	Caprolactam	1	O	1	1	1H	ug/L
49-4H-)	(-Chloro-3-methylphenol	1	O	H(	1	1H	ug/L
91-4) -6	0-Methylnaphthalene	1	O	H30	1	1H	ug/L
)) -( ) -(	7 exachlorocyclopentadiene	1	O	H0(	1	1H	ug/L
55-H6-0	0,(,6-z richlorophenol	1	O	H46	1	1H	ug/L
94-94-(	0,(,4-z richlorophenol	1	O	H(	1	1H	ug/L
90-40-(	1,1-Biphenyl	1	O	H14	1	1H	ug/L
91-45-)	0-Chloronaphthalene	1	O	H16	1	1H	ug/L
55-) (-(	0-Nitroaniline	1	O	H(9	1	1H	ug/L
131-11-3	Dimethylphthalate	1	O	H00	1	1H	ug/L
0H5-96-5	Acenaphthylene	1	O	H)	1	1H	ug/L
6H6-0H-0	0,6-Dinitrotoluene	1	O	H30	1	1H	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB559(9BL	SDG No.:	7 1) 55
Lab Sample ID:	PB559(9BL	Matrix:	Water
Analytical Method:	SW50) H	% Moisture:	1HH
Sample Wt/Vol:	1HHH Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	zest:	SVQCMS Group1
Extraction zype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/8 c Batch:	Dilution:	Prep Date	Date Analy2ed	Prep Batch ID
BFH544( ) .D	1	H3/1) /16 H9:3H	H3/19/16 H1:4)	PB559(9

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-H9-0	3-Nitroaniline	1	O	1	1	1H	ug/L
53-30-9	Acenaphthene	1	O	H01	1	1H	ug/L
41-05-4	0,(-Dinitrophenol	5	O	0.1	5	1H	ug/L
1HH-HD-)	(-Nitrophenol	4	O	0	4	1H	ug/L
130-6(-9	Diben2oUuran	1	O	H0(	1	1H	ug/L
101-1(-0	0,(-Dinitrotoluene	1	O	1	1	1H	ug/L
5(-66-0	Diethylphthalate	1	O	H35	1	1H	ug/L
) HH4-) 0-3	(-Chlorophenyl-phenylether	1	O	H01	1	1H	ug/L
56-) 3-)	Fluorene	1	O	H31	1	1H	ug/L
1HH-H1-6	(-Nitroaniline	0	O	1.(	0	1H	ug/L
43(-40-1	(,6-Dinitro-0-methylphenol	0	O	H) (	0	1H	ug/L
56-3H-6	n-Nitrosodiphenylamine	1	O	H6	1	1H	ug/L
1H1-44-3	(-Bromophenyl-phenylether	1	O	H03	1	1H	ug/L
115-) (-1	7 exachloroben2ene	1	O	H15	1	1H	ug/L
1910-0(-9	Atra2ine	1	O	H(	1	1H	ug/L
5) -56-4	Pentachlorophenol	1	O	1	1	1H	ug/L
54-H1-5	Phenanthrene	1	O	H06	1	1H	ug/L
10H-10-)	Anthracene	1	O	H16	1	1H	ug/L
56-) (-5	Carba2ole	1	O	H00	1	1H	ug/L
5(-) (-0	Di-n-butylphthalate	1	O	1	1	1H	ug/L
0H6-((-H	Fluoranthene	1	O	H(	1	1H	ug/L
109-HH-H	Pyrene	1	O	H0	1	1H	ug/L
54-65-)	Butylben2ylphthalate	1	O	H19	1	1H	ug/L
91-9(-1	3,3-Dichloroben2idine	1	O	1	1	1H	ug/L
46-44-3	Ben2ofaJanthracene	1	O	H16	1	1H	ug/L
015-H1-9	Chrysene	1	O	H15	1	1H	ug/L
11) -51-)	Bisf0-ethylhexylJphthalate	1	O	H16	1	1H	ug/L
11) -5(-H	Di-n-octyl phthalate	1	O	H41	1	1H	ug/L
0H4-99-0	Ben2ofbJUuoranthene	1	O	H09	1	1H	ug/L
0H) -H5-9	Ben2ofkJUuoranthene	1	O	H15	1	1H	ug/L
4H-30-5	Ben2ofaJpyrene	1	O	H1(	1	1H	ug/L
193-39-4	Indenof1,0,3-cdJpyrene	1	O	H14	1	1H	ug/L
43-) H-3	Diben2ofa,hJanthracene	1	O	H(0	1	1H	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB559(9BL	SDG No.:	7 1) 55
Lab Sample ID:	PB559(9BL	Matrix:	Water
Analytical Method:	SW50) H	% Moisture:	1HH
Sample Wt/Vol:	1HHH Onits: mL	Final Vol:	1HHH uL
Soil Aliquot Vol:	uL	zest:	SVQCMS Group1
Extraction zype :	Decanted : N	Level :	LQW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/8 c Batch:	Dilution:	Prep Date	Date Analy2ed	Prep Batch ID
BFH544( ) .D	1	H3/1) /16 H9:3H	H3/19/16 H1:4)	PB559(9

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-0(-0	Ben2ofg,h,iJperylene	1	O	H09	1	1H	ug/L
94-9(-3	1,0,(,4-zetrachloroben2ene	1	O	H0	1	1H	ug/L
45-9H-0	0,3,(,6-zetrachlorophenol	1	O	H0	1	1H	ug/L
SURROGATES							
36) -10-(	0-Fluorophenol	13H		1H- 13H		54%	SPK: 14H
1310) -55-3	Phenol-d6	10H		1H- 13H		5H%	SPK: 14H
(164-6H-H	Nitroben2ene-d4	51.9		36 - 131		50%	SPK: 1HH
301-6H-5	0-Fluorobiphenyl	50.6		39 - 131		53%	SPK: 1HH
115-) 9-6	0,(,6-zribromophenol	1(H		04 - 144		91%	SPK: 14H
1) 15-41-H	zerphenyl-d1(	) 4.5		03 - 13H		) 6%	SPK: 1HH
INTERNAL STANDARDS							
3544-50-1	1,(-Dichloroben2ene-d(	10639)	6.54				
11(6-64-0	Naphthalene-d5	435(H1	5.1(				
14H6) -06-0	Acenaphthene-d1H	035H49	9.59				
141) -00-0	Phenanthrene-d1H	(5)) (9	11.3)				
1) 19-H3-4	Chrysene-d10	(1) ( ) 1	1(				
140H-96-3	Perylene-d10	3) 4H1 (	14.(3				
TENTATIVE IDENTIFIED COMPOUNDS							
HHH103-(0-0	0-Pentanone, (-hydroxy-(-methyl-	0.3	A			4.H6	ug/L
	unknown6.60	) 4.9	T			6.60	ug/L
HH6311-(5-(	Diben2ylidene (,(-biphenylenediam	(.9	T			16.H6	ug/L

O = Not Detected
LQ8 = Limit oU8 uantitation
MDL = Method Detection Limit
LQD = Limit oUDetection
E = Value Exceeds Calibration Range
8 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence oUa Compound
* = Values outside oU8 C limits
D = Dilution
fJ = Laboratory In7 ouse Limit

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Report of Analysis

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Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BS	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BS	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.71 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV2 CMS Group1
Extraction zype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 7QD	1	74/1O/1O7(:) (	74/1H/1O81:19	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
177-) 8-H	Ben6aldehyde	Q(7		1HQ	44.4	447	ug/Kg
17(-9) -8	Phenol	1O77		HH	44.4	447	ug/Kg
111-QQ-Q	bisf8-ChloroethylJether	1) 77		1O	44.4	447	ug/Kg
9) -) H-(	8-Chlorophenol	1) 77		1HO	44.4	447	ug/Kg
9) -Q(-H	8-Methylphenol	1Q77		1(.1	44.4	447	ug/Kg
17(-O7-1	8,8-oxybisf1-ChloropropaneJ	1477		14.(	44.4	447	ug/Kg
9(-(O-8	Acetophenone	1877		17.8	44.4	447	ug/Kg
O) H-9Q-9O-9	4+Q-Methylphenols	1O77		1H4	44.4	447	ug/Kg
O81-OQ-H	n-Nitroso-di-n-propylamine	1Q77		1Q.(	44.4	447	ug/Kg
OH-H8-1	0 exachloroethane	1Q77		1Q9	44.4	447	ug/Kg
9(-9) -4	Nitroben6ene	1Q77		18.O	44.4	447	ug/Kg
H(-) 9-1	Isophorone	1Q77		11	44.4	447	ug/Kg
((-H) -)	8-Nitrophenol	1Q77		1Q.1	44.4	447	ug/Kg
17) -OH-9	8,Q-Dimethylphenol	1) 77		1(.9	44.4	447	ug/Kg
111-91-1	bisf8-ChloroethoxyJmethane	1477		19.8	44.4	447	ug/Kg
187-(4-8	8,Q-Dichlorophenol	1) 77		18.H	44.4	447	ug/Kg
91-87-4	Naphthalene	1477		11.)	44.4	447	ug/Kg
17O-QH-(	Q-Chloroaniline	4) 7		84.)	44.4	447	ug/Kg
(H-Q(-4	0 exachlorobutadiene	1477		18.1	44.4	447	ug/Kg
17) -O7-8	Caprolactam	1) 77		1) .)	OO.O	447	ug/Kg
) 9-) 7-H	Q-Chloro-4-methylphenol	1) 77		1Q.(	44.4	447	ug/Kg
91-) H-O	8-Methylnaphthalene	1) 77		(.Q	44.4	447	ug/Kg
HH-QH-Q	0 exachlorocyclopentadiene	8477		(.1	44.4	447	ug/Kg
((-7O-8	8,QO-z richlorophenol	1Q77		17.8	44.4	447	ug/Kg
9) -9) -Q	8,Q) -z richlorophenol	1) 77		84.Q	44.4	447	ug/Kg
98-) 8-Q	1,1-Biphenyl	1477		18.O	44.4	447	ug/Kg
91-) (-H	8-Chloronaphthalene	1Q77		HO	44.4	447	ug/Kg
((-HQ-Q	8-Nitroaniline	1O77		1Q.(	44.4	447	ug/Kg
141-11-4	Dimethylphthalate	1Q77		9	44.4	447	ug/Kg
87(-9O-(	Acenaphthylene	1Q77		(.Q	44.4	447	ug/Kg
O7O-87-8	8,O-Dinitrotoluene	1477		14.O	44.4	447	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BS	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BS	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.71 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV2 CMS Group1
Extraction zype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 7QD	1	74/1O/1O7(:) (	74/1H/1O81:19	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-79-8	4-Nitroaniline	((7		81.Q	OO.O	447	ug/Kg
(4-48-9	Acenaphthene	1) 77		9.Q	44.4	447	ug/Kg
) 1-8(-)	8,Q-Dinitrophenol	8877		44.9	8H7	447	ug/Kg
177-78-H	Q-Nitrophenol	8(77	E	O1.9	1H7	447	ug/Kg
148-OQ-9	Diben6oUuran	1O77		14	44.4	447	ug/Kg
181-1Q-8	8,Q-Dinitrotoluene	1O77		17	44.4	447	ug/Kg
(Q-OO-8	Diethylphthalate	1Q77		) .8	44.4	447	ug/Kg
H77) -H8-4	Q-Chlorophenyl-phenylether	1477		1(.1	44.4	447	ug/Kg
(O-H4-H	Fluorene	1) 77		18.O	44.4	447	ug/Kg
177-71-O	Q-Nitroaniline	1Q77		Q4.Q	OO.O	447	ug/Kg
) 4Q-) 8-1	QO-Dinitro-8-methylphenol	1877		19.1	1H7	447	ug/Kg
(O-47-O	n-Nitrosodiphenylamine	1O77		(	44.4	447	ug/Kg
171-)) -4	Q-Bromophenyl-phenylether	1) 77		O.)	44.4	447	ug/Kg
11(-HQ-1	0 exachloroben6ene	1O77		14.O	44.4	447	ug/Kg
1918-8Q-9	Atra6ine	1977		1HO	44.4	447	ug/Kg
(H-(O-)	Pentachlorophenol	4Q77	E	88.(	44.4	447	ug/Kg
( ) -71-(	Phenanthrene	1) 77		9	44.4	447	ug/Kg
187-18-H	Anthracene	1) 77		O.(	44.4	447	ug/Kg
(O-HQ-(	Carba6ole	1O77		H4	44.4	447	ug/Kg
(Q-HQ-8	Di-n-butylphthalate	1H77		8O.8	44.4	447	ug/Kg
87O-QQ-7	Fluoranthene	1O77		O.H	44.4	447	ug/Kg
189-77-7	Pyrene	1O77		(	44.4	447	ug/Kg
( ) -O(-H	Butylben6ylphthalate	1H77		1O	44.4	447	ug/Kg
91-9Q-1	4,4-Dichloroben6idine	(97		81.Q	44.4	447	ug/Kg
) O-)) -4	Ben6ofaJanthracene	1Q77		1) .9	44.4	447	ug/Kg
81(-71-9	Chrysene	1) 77		1) .1	44.4	447	ug/Kg
11H-(1-H	Bisf8-ethylhexylJphthalate	1(77		11.(	44.4	447	ug/Kg
11H-(Q-7	Di-n-octyl phthalate	8177		4.(	44.4	447	ug/Kg
87) -99-8	Ben6ofbJUuoranthene	1) 77		17.9	44.4	447	ug/Kg
87H-7(-9	Ben6ofkJUuoranthene	1477		1) .H	44.4	447	ug/Kg
) 7-48-(	Ben6ofaJpyrene	1) 77		H8	44.4	447	ug/Kg
194-49-)	Indenof1,8,4-cdJpyrene	1H77		11.1	44.4	447	ug/Kg
) 4-H7-4	Diben6ofa,hJanthracene	1) 77		9.O	44.4	447	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((98) BS	SDG No.:	0 1H((
Lab Sample ID:	PB((98) BS	Matrix:	S2 IL
Analytical Method:	SW(8H7	% Moisture:	7
Sample Wt/Vol:	47.71 5 nits: g	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV2 CMS Group1
Extraction zype :	Decanted : N	Level :	L2 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/3 c Batch:	Dilution:	Prep Date	Date Analy6ed	Prep Batch ID
BF7( )) 7QD	1	74/1O/1O7(:) (	74/1H/1O81:19	PB((98)

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-8Q-8	Ben6ofg,h,iJperylene	1Q77		14.)	44.4	447	ug/Kg
9) -9Q-4	1,8,Q) -zetrachloroben6ene	1877		14.1	44.4	447	ug/Kg
) (-97-8	8,4,QO-zetrachlorophenol	1O77		14.1	44.4	447	ug/Kg
SURROGATES							
4OH-18-Q	8-Fluorophenol	187		8(- 18H		(4%	SPK: 1) 7
1418H-((-4	Phenol-dO	147		4Q- 18H		(Q%	SPK: 1) 7
Q1O) -O7-7	Nitroben6ene-d)	(1.9		41 - 148		(8%	SPK: 177
481-O7-(	8-Fluorobiphenyl	9(.(		49 - 184		99%	SPK: 177
11(-H9-O	8,QO-zribromophenol	187		47 - 144		(7%	SPK: 1) 7
1H1(-) 1-7	zerphenyl-d1Q	(9.8		4H- 11)		(9%	SPK: 177
INTERNAL STANDARDS							
4( )) -(8-1	1,Q-Dichloroben6ene-dQ	1QQ9O)		O((			
11QO-O) -8	Naphthalene-d(	) 9H11(		(.1O			
1) 7OH-8O-8	Acenaphthene-d17	8HQ1((		9.98			
1) 1H-88-8	Phenanthrene-d17	Q(8Q4O		11.Q1			
1H19-74-)	Chrysene-d18	47(O11		1Q7Q			
1) 87-9O-4	Perylene-d18	8O1Q((		1) .Q(			

5 = Not Detected
L2 3 = Limit oU3 uantitation
MDL = Method Detection Limit
L2 D = Limit oUDetection
E = Value Exceeds Calibration Range
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence oUa Compound
* = Values outside oU3 C limits
D = Dilution
fJ = Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((989BS	SDG No.:	0 1H((
Lab Sample ID:	PB((989BS	Matrix:	Water
Analytical Method:	SW( ) H7	% Moisture:	177
Sample Wt/Vol:	1777 Onits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV5 CMS Group1
Extraction zype :	Decanted : N	Level :	L5 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/2 c Batch:	Dilution:	Prep Date	Date Analy3ed	Prep Batch ID
BF7(QQ8(.D	1	76/1H/14 79:67	76/19/14 7) :) 4	PB((989

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
177-Q) -H	Ben3aldehyde	17.H		7.HH	1	17	ug/L
17(-9Q-)	Phenol	84.8		7.) 1	1	17	ug/L
111-88-8	bisf) -ChloroethylJether	86.H		7.QQ	1	17	ug/L
9Q-QH-(	) -Chlorophenol	8) .Q		7.Q8	1	17	ug/L
9Q-8(-H	) -Methylphenol	87.H		7.) 8	1	17	ug/L
17(-47-1	) ,) -oxybisf1-ChloropropaneJ	69.4		7.1H	1	17	ug/L
9(-(4-)	Acetophenone	6(.Q		7.18	1	17	ug/L
4QH-98-94-9	6+8-Methylphenols	86.Q		7.6(	1	17	ug/L
4) 1-48-H	n-Nitroso-di-n-propylamine	6(.)		7.)	1	17	ug/L
4H-H) -1	0 exachloroethane	69.9		7.) Q	1	17	ug/L
9(-9Q-6	Nitroben3ene	86.)		7.4(	1	17	ug/L
H(-Q9-1	Isophorone	87.6		7.6	1	17	ug/L
((-HQ-Q	) -Nitrophenol	8) .(		7.Q)	1	17	ug/L
17Q-4H-9	) ,8-Dimethylphenol	87.6		7.H1	1	17	ug/L
111-91-1	bisf) -ChloroethoxyJmethane	81.9		7.QQ	1	17	ug/L
1) 7-(6-)	) ,8-Dichlorophenol	86.(		7.44	1	17	ug/L
91-) 7-6	Naphthalene	69.Q		7.1)	1	17	ug/L
174-8H-(	8-Chloroaniline	16.4		1	1	17	ug/L
(H-4(-6	0 exachlorobutadiene	6(.)		7.) Q	1	17	ug/L
17Q-47-)	Caprolactam	8) .H		1	1	17	ug/L
Q9-Q7-H	8-Chloro-6-methylphenol	81.(		7.8	1	17	ug/L
91-QH-4	) -Methylnaphthalene	8Q1		7.6)	1	17	ug/L
HH-8H-8	0 exachlorocyclopentadiene	9) .H	E	7.) 8	1	17	ug/L
((-74-)	) ,8,4-z richlorophenol	8) .(		7.Q4	1	17	ug/L
9Q-9Q-8	) ,8,Q-z richlorophenol	8) .H		7.8	1	17	ug/L
9) -Q) -8	1,1-Biphenyl	64.8		7.1Q	1	17	ug/L
91-Q(-H	) -Chloronaphthalene	6(.Q		7.14	1	17	ug/L
((-H8-8	) -Nitroaniline	88.9		7.89	1	17	ug/L
161-11-6	Dimethylphthalate	8) .4		7.))	1	17	ug/L
) 7(-94-(	Acenaphthylene	8) .8		7.H	1	17	ug/L
474-) 7-)	) ,4-Dinitrotoluene	8) .H		7.6)	1	17	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((989BS	SDG No.:	0 1H((
Lab Sample ID:	PB((989BS	Matrix:	Water
Analytical Method:	SW( ) H7	% Moisture:	177
Sample Wt/Vol:	1777 Onits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV5 CMS Group1
Extraction zype :	Decanted : N	Level :	L5 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/2 c Batch:	Dilution:	Prep Date	Date Analy3ed	Prep Batch ID
BF7(QQ8(.D	1	76/1H/14 79:67	76/19/14 7) :) 4	PB((989

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-79-)	6-Nitroaniline	)) .6		1	1	17	ug/L
(6-6) -9	Acenaphthene	84.H		7.) 1	1	17	ug/L
Q1-) (-Q	) ,8-Dinitrophenol	H4.)		) .1	(	17	ug/L
177-7) -H	8-Nitrophenol	H7.(		)	Q	17	ug/L
16) -48-9	Diben3oUran	8(.4		7.) 8	1	17	ug/L
1) 1-18-)	) ,8-Dinitrotoluene	81.8		1	1	17	ug/L
(8-44-)	Diethylphthalate	81.)		7.6(	1	17	ug/L
H77Q-H) -6	8-Chlorophenyl-phenylether	8) .Q		7.) 1	1	17	ug/L
(4-H6-H	Fluorene	86.9		7.61	1	17	ug/L
177-71-4	8-Nitroaniline	8) .6		1.8	)	17	ug/L
Q68-Q) -1	8,4-Dinitro-) -methylphenol	87.(		7.H8	)	17	ug/L
(4-67-4	n-Nitrosodiphenylamine	81.(		7.4	1	17	ug/L
171-QQ-6	8-Bromophenyl-phenylether	86.Q		7.) 6	1	17	ug/L
11(-H8-1	0 exachloroben3ene	86.(		7.1(	1	17	ug/L
191) -) 8-9	Atra3ine	Q7.8		7.8	1	17	ug/L
(H-(4-Q	Pentachlorophenol	(8.Q	E	1	1	17	ug/L
(Q-71-(	Phenanthrene	88.Q		7.) 4	1	17	ug/L
1) 7-1) -H	Anthracene	69		7.14	1	17	ug/L
(4-H8-(	Carba3ole	8Q1		7.))	1	17	ug/L
(8-H8-)	Di-n-butylphthalate	86.8		1	1	17	ug/L
) 74-88-7	Fluoranthene	6(.(		7.8	1	17	ug/L
1) 9-77-7	Pyrene	6Q)		7.)	1	17	ug/L
(Q-4(-H	Butylben3ylphthalate	6Q(		7.19	1	17	ug/L
91-98-1	6,6-Dichloroben3idine	18.4		1	1	17	ug/L
Q4-QQ-6	Ben3ofaJanthracene	6(.)		7.14	1	17	ug/L
) 1(-71-9	Chrysene	68.6		7.1(	1	17	ug/L
11H-(1-H	Bisf) -ethylhexylJphthalate	64.(		7.14	1	17	ug/L
11H-(8-7	Di-n-octyl phthalate	8)		7.Q1	1	17	ug/L
) 7Q-99-)	Ben3ofbJUuoranthene	69.H		7.) 9	1	17	ug/L
) 7H-7(-9	Ben3ofkJUuoranthene	8H		7.1(	1	17	ug/L
Q7-6) -(	Ben3ofaJpyrene	88.)		7.18	1	17	ug/L
196-69-Q	Indenof1,) ,6-cdJpyrene	64.H		7.1Q	1	17	ug/L
Q6-H7-6	Diben3ofa,hJanthracene	69.9		7.8)	1	17	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PB((989BS	SDG No.:	0 1H((
Lab Sample ID:	PB((989BS	Matrix:	Water
Analytical Method:	SW( ) H7	% Moisture:	177
Sample Wt/Vol:	1777 Onits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	zest:	SV5 CMS Group1
Extraction zype :	Decanted : N	Level :	L5 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P0 :

File ID/2 c Batch:	Dilution:	Prep Date	Date Analy3ed	Prep Batch ID
BF7(QQ8(.D	1	76/1H/14 79:67	76/19/14 7) :) 4	PB((989

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-) 8-)	Ben3ofg,h,iJperylene	69.1		7.) 9	1	17	ug/L
9Q-98-6	1,) ,8,Q-zetrachloroben3ene	6Q(		7.)	1	17	ug/L
Q(-97-)	) ,6,8,4-zetrachlorophenol	84.1		7.)	1	17	ug/L
SURROGATES							
64H-1) -8	) -Fluorophenol	1) 7		17 - 167		(7%	SPK: 1Q7
161) H-((-6	Phenol-d4	1) 7		17 - 167		( ) %	SPK: 1Q7
814Q-47-7	Nitroben3ene-dQ	(1.H		64 - 161		( ) %	SPK: 177
6) 1-47-(	) -Fluorobiphenyl	98.9		69 - 161		9Q%	SPK: 177
11(-H9-4	) ,8,4-zribromophenol	167		) Q- 1QQ		((%	SPK: 1Q7
1H1(-Q1-7	zerphenyl-d18	HQ9		) 6 - 167		H4%	SPK: 177
INTERNAL STANDARDS							
6(QQ-( ) -1	1,8-Dichloroben3ene-d8	1) 879Q	4.(4				
1184-4Q-)	Naphthalene-d(	894QH6	(.18				
1Q74H-) 4-)	Acenaphthene-d17	) 68447	9.9				
1Q1H-)) -)	Phenanthrene-d17	88766(	11.6H				
1H19-76-Q	Chrysene-d1)	6HH6H1	18.71				
1Q) 7-94-6	Perylene-d1)	) 99644	1Q88				

O = Not Detected
L5 2 = Limit oU2 uantitation
MDL = Method Detection Limit
L5 D = Limit oUDetection
E = Value Exceeds Calibration Range
2 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

T= Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence oUa Compound
* = Values outside oU2 C limits
D = Dilution
fJ = Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MS	SDG No.:	H1788
Lab Sample ID:	H1788-01MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085624.D	1	03/16/16 08:58	03/21/16 16:09	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	570		20.1	38.5	380	ug/Kg
108-95-2	Phenol	1600		8.9	38.5	380	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1700		18.5	38.5	380	ug/Kg
95-57-8	2-Chlorophenol	1700		20.3	38.5	380	ug/Kg
95-48-7	2-Methylphenol	1800		20.9	38.5	380	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1700		15.9	38.5	380	ug/Kg
98-86-2	Acetophenone	1600		11.8	38.5	380	ug/Kg
65794-96-9	3+4-Methylphenols	1600		20	38.5	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1800		19.4	38.5	380	ug/Kg
67-72-1	Hexachloroethane	1700		17.2	38.5	380	ug/Kg
98-95-3	Nitrobenzene	1600		14.6	38.5	380	ug/Kg
78-59-1	Isophorone	1700		12.7	38.5	380	ug/Kg
88-75-5	2-Nitrophenol	1900		18.6	38.5	380	ug/Kg
105-67-9	2,4-Dimethylphenol	1600		21.8	38.5	380	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1900		22.2	38.5	380	ug/Kg
120-83-2	2,4-Dichlorophenol	1700		14.7	38.5	380	ug/Kg
91-20-3	Naphthalene	1600		13.3	38.5	380	ug/Kg
106-47-8	4-Chloroaniline	700		27.1	38.5	380	ug/Kg
87-68-3	Hexachlorobutadiene	1700		14	38.5	380	ug/Kg
105-60-2	Caprolactam	1700		17.9	77	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1700		17.1	38.5	380	ug/Kg
91-57-6	2-Methylnaphthalene	1900		9.7	38.5	380	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3300	E	9.4	38.5	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1700		11.8	38.5	380	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1700		27	38.5	380	ug/Kg
92-52-4	1,1-Biphenyl	1500		14.6	38.5	380	ug/Kg
91-58-7	2-Chloronaphthalene	1600		8.8	38.5	380	ug/Kg
88-74-4	2-Nitroaniline	1800		17.1	38.5	380	ug/Kg
131-11-3	Dimethylphthalate	1900		10.4	38.5	380	ug/Kg
208-96-8	Acenaphthylene	1700		9.7	38.5	380	ug/Kg
606-20-2	2,6-Dinitrotoluene	1600		15.7	38.5	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MS	SDG No.:	H1788
Lab Sample ID:	H1788-01MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085624.D	1	03/16/16 08:58	03/21/16 16:09	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1100		24.7	77	380	ug/Kg
83-32-9	Acenaphthene	1700		10.9	38.5	380	ug/Kg
51-28-5	2,4-Dinitrophenol	2600		39.2	310	380	ug/Kg
100-02-7	4-Nitrophenol	3000		71.5	190	380	ug/Kg
132-64-9	Dibenzofuran	1900		15	38.5	380	ug/Kg
121-14-2	2,4-Dinitrotoluene	1900		11.5	38.5	380	ug/Kg
84-66-2	Diethylphthalate	1500		6	38.5	380	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600		20.9	38.5	380	ug/Kg
86-73-7	Fluorene	1700		14.6	38.5	380	ug/Kg
100-01-6	4-Nitroaniline	1500		50.1	77	380	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1700		22.1	190	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1900		9.2	38.5	380	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1900		7.5	38.5	380	ug/Kg
118-74-1	Hexachlorobenzene	1900		15.7	38.5	380	ug/Kg
1912-24-9	Atrazine	2000		20.3	38.5	380	ug/Kg
87-86-5	Pentachlorophenol	3200	E	26.3	38.5	380	ug/Kg
85-01-8	Phenanthrene	1800		10.4	38.5	380	ug/Kg
120-12-7	Anthracene	1500		7.9	38.5	380	ug/Kg
86-74-8	Carbazole	1800		8.4	38.5	380	ug/Kg
84-74-2	Di-n-butylphthalate	1800		30.3	38.5	380	ug/Kg
206-44-0	Fluoranthene	1500		7.7	38.5	380	ug/Kg
129-00-0	Pyrene	1700		9.2	38.5	380	ug/Kg
85-68-7	Butylbenzylphthalate	1600		18.5	38.5	380	ug/Kg
91-94-1	3,3-Dichlorobenzidine	910		24.7	38.5	380	ug/Kg
56-55-3	Benzo(a)anthracene	1600		18.4	38.5	380	ug/Kg
218-01-9	Chrysene	1400		17.4	38.5	380	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1500		13.6	38.5	380	ug/Kg
117-84-0	Di-n-octyl phthalate	1500		4.4	38.5	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	1700		12.6	38.5	380	ug/Kg
207-08-9	Benzo(k)fluoranthene	1800		18.1	38.5	380	ug/Kg
50-32-8	Benzo(a)pyrene	1800		8.3	38.5	380	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1800		12.8	38.5	380	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	2100		11.1	38.5	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MS	SDG No.:	H1788
Lab Sample ID:	H1788-01MS	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085624.D	1	03/16/16 08:58	03/21/16 16:09	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	2200		15.6	38.5	380	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1500		15.1	38.5	380	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1800		15.1	38.5	380	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		82%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		89%	SPK: 150
4165-60-0	Nitrobenzene-d5	96		31 - 132		96%	SPK: 100
321-60-8	2-Fluorobiphenyl	100		39 - 123		100%	SPK: 100
118-79-6	2,4,6-Tribromophenol	120		30 - 133		81%	SPK: 150
1718-51-0	Terphenyl-d14	87.4		37 - 115		87%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	139153	6.85				
1146-65-2	Naphthalene-d8	552231	8.13				
15067-26-2	Acenaphthene-d10	265789	9.89				
1517-22-2	Phenanthrene-d10	473044	11.36				
1719-03-5	Chrysene-d12	330602	14				
1520-96-3	Perylene-d12	236899	15.42				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MS	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MS	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779HD	1	(2/1H/16 (9:2(	(2/8(/16 (3:3B	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1((-78-H	Qenzaldehyde	BH8	+	HH	1(	1((	ug/L
1(B-97-8	Phenol	23(		8.1	1(	1((	ug/L
111-33-3	bis58-Chloroethyl0ether	37(		7.7	1(	1((	ug/L
97-7H-B	8-Chlorophenol	33(		7.3	1(	1((	ug/L
97-3B-H	8-Methylphenol	32(		8.3	1(	1((	ug/L
1(B-6(-1	8,8-oxybis51-Chloropropane0	3((		1.H	1(	1((	ug/L
9B-B6-8	Acetophenone	31(		1.3	1(	1((	ug/L
67H-93-96-9	2k3-Methylphenols	32(		2.B	1(	1((	ug/L
681-63-H	n-Nitroso-di-n-propylamine	3((		8	1(	1((	ug/L
6H-H8-1	) exachloroethane	29(		8.7	1(	1((	ug/L
9B-97-2	Nitrobenzene	36(		6.B	1(	1((	ug/L
HB-79-1	Isophorone	33(		2	1(	1((	ug/L
BB-H7-7	8-Nitrophenol	33(		7.8	1(	1((	ug/L
1(7-6H-9	8,3-Dimethylphenol	31(		H1	1(	1((	ug/L
111-91-1	bis58-Chloroethoxy0methane	37(		7.7	1(	1((	ug/L
18(-B2-8	8,3-Dichlorophenol	36(		6.6	1(	1((	ug/L
91-8(-2	Naphthalene	37(		1.8	1(	1((	ug/L
1(6-3H-B	3-Chloroaniline	H1.9	+	1(	1(	1((	ug/L
BH-6B-2	) exachlorobutadiene	3((		8.7	1(	1((	ug/L
1(7-6(-8	Caprolactam	29(		1(	1(	1((	ug/L
79-7(-H	3-Chloro-2-methylphenol	38(		3	1(	1((	ug/L
91-7H-6	8-Methylnaphthalene	3H(		2.8	1(	1((	ug/L
HH-3H-3	) exachlorocyclopentadiene	71(		8.3	1(	1((	ug/L
BB-(6-8	8,3,6-f richlorophenol	3H(		7.6	1(	1((	ug/L
97-97-3	8,3,7-f richlorophenol	3B(		3	1(	1((	ug/L
98-78-3	1,1-Qiphenyl	3((		1.7	1(	1((	ug/L
91-7B-H	8-Chloronaphthalene	32(		1.6	1(	1((	ug/L
BB-HB-3	8-Nitroaniline	78(		3.9	1(	1((	ug/L
121-11-2	Dimethylphthalate	39(		8.8	1(	1((	ug/L
8(B-96-B	Acenaphthylene	3H(		H	1(	1((	ug/L
6(6-8(-8	8,6-Dinitrotoluene	36(		2.8	1(	1((	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MS	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MS	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779HD	1	(2/1H/16 (9:2(	(2/8(/16 (3:3B	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-(9-8	2-Nitroaniline	19(		1(	1(	1((	ug/L
B2-28-9	Acenaphthene	3H(		8.1	1(	1((	ug/L
71-8B-7	8,3-Dinitrophenol	28(		81	B(	1((	ug/L
1((-(8-H	3-Nitrophenol	68(		8(	7(	1((	ug/L
128-63-9	DibenzoJuran	73(		8.3	1(	1((	ug/L
181-13-8	8,3-Dinitrotoluene	33(		1(	1(	1((	ug/L
B3-66-8	Diethylphthalate	3B(		2.B	1(	1((	ug/L
H((7-H8-2	3-Chlorophenyl-phenylether	3H(		8.1	1(	1((	ug/L
B6-H2-H	Fluorene	3H(		2.1	1(	1((	ug/L
1((-(1-6	3-Nitroaniline	23(		12.6	8(	1((	ug/L
723-78-1	3,6-Dinitro-8-methylphenol	87(		H3	8(	1((	ug/L
B6-2(-6	n-Nitrosodiphenylamine	71(		6	1(	1((	ug/L
1(1-77-2	3-Qromophenyl-phenylether	73(		8.2	1(	1((	ug/L
11B-H3-1	) exachlorobenzene	71(		1.B	1(	1((	ug/L
1918-83-9	Atrazine	79(		3	1(	1((	ug/L
BH-B6-7	Pentachlorophenol	B((		1(	1(	1((	ug/L
B7-(1-B	Phenanthrene	39(		8.6	1(	1((	ug/L
18(-18-H	Anthracene	37(		1.6	1(	1((	ug/L
B6-H3-B	Carbazole	3B(		8.8	1(	1((	ug/L
B3-H3-8	Di-n-butylphthalate	78(		1(	1(	1((	ug/L
8(6-33-(	Fluoranthene	2B(		3	1(	1((	ug/L
189-((-(	Pyrene	38(		8	1(	1((	ug/L
B7-6B-H	Qutylbenzylphthalate	38(		1.9	1(	1((	ug/L
91-93-1	2,2-Dichlorobenzidine	88(		1(	1(	1((	ug/L
76-77-2	Qenzo5a0anthracene	3B(		1.6	1(	1((	ug/L
81B-(1-9	Chrysene	29(		1.B	1(	1((	ug/L
11H-B1-H	Qis58-ethylhexyl0phthalate	37(		1.6	1(	1((	ug/L
11H-B3-(	Di-n-octyl phthalate	71(		7.1	1(	1((	ug/L
8(7-99-8	Qenzo5b0Jluoranthene	38(		8.9	1(	1((	ug/L
8(H-(B-9	Qenzo5w0Jluoranthene	7((		1.B	1(	1((	ug/L
7(-28-B	Qenzo5a0pyrene	39(		1.3	1(	1((	ug/L
192-29-7	Indeno51,8,2-cd0pyrene	7H(		1.7	1(	1((	ug/L
72-H(-2	Dibenzo5a,h0anthracene	7((		3.8	1(	1((	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MS	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MS	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779HD	1	(2/1H/16 (9:2(	(2/8(/16 (3:3B	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-83-8	Qenzo5g,h,i0perylene	36(		8.9	1(	1((	ug/L
97-93-2	1,8,3,7-f etrachlorobenzene	38(		8	1(	1((	ug/L
7B-9(-8	8,2,3,6-f etrachlorophenol	3B(		8	1(	1((	ug/L
SURROGATES							
26H-18-3	8-Fluorophenol	12(		1(- 12(		B6%	SPK: 17(
1218H-BB-2	Phenol-d6	11(		1(- 12(		H7%	SPK: 17(
3167-6(-(	Nitrobenzene-d7	9(		26 - 121		9(%	SPK: 1((
281-6(-B	8-Fluorobiphenyl	11(		29 - 121		112%	SPK: 1((
11B-H9-6	8,3,6-f ribromophenol	13(		87 - 177		91%	SPK: 17(
1H1B-71-(	f erphenyl-d13	99.B		82 - 12(		1((%	SPK: 1((
INTERNAL STANDARDS							
2B77-B8-1	1,3-Dichlorobenzene-d3	186(16	6.B6				
1136-67-8	Naphthalene-dB	398(31	B.13				
17(6H-86-8	Acenaphthene-d1(	8181B8	9.9				
171H-88-8	Phenanthrene-d1(	233382	11.2H				
1H19-(2-7	Chrysene-d18	826279	13.(1				
178(-96-2	Perylene-d18	82HB(7	17.33				

U = Not Detected
LT O = Limit oJ Ouantitation
MDL = Method Detection Limit
LT D = Limit oJ Detection
E = Value Exceeds Calibration Range
O = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

+= Estimated Value
Q = Analyte Found in Associated Method Qlanw
N = Presumptive Evidence oJ a Compound
* = Values outside oJ OC limits
D = Dilution
50= Laboratory In) ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MSD	SDG No.:	H1788
Lab Sample ID:	H1788-01MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.11 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085625.D	1	03/16/16 08:58	03/21/16 16:41	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
100-52-7	Benzaldehyde	580		20	38.4	380	ug/Kg
108-95-2	Phenol	1600		8.9	38.4	380	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	1700		18.4	38.4	380	ug/Kg
95-57-8	2-Chlorophenol	1700		20.3	38.4	380	ug/Kg
95-48-7	2-Methylphenol	1800		20.8	38.4	380	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	1700		15.9	38.4	380	ug/Kg
98-86-2	Acetophenone	1600		11.7	38.4	380	ug/Kg
65794-96-9	3+4-Methylphenols	1600		19.9	38.4	380	ug/Kg
621-64-7	n-Nitroso-di-n-propylamine	1800		19.4	38.4	380	ug/Kg
67-72-1	Hexachloroethane	1700		17.2	38.4	380	ug/Kg
98-95-3	Nitrobenzene	1600		14.5	38.4	380	ug/Kg
78-59-1	Isophorone	1700		12.7	38.4	380	ug/Kg
88-75-5	2-Nitrophenol	1900		18.5	38.4	380	ug/Kg
105-67-9	2,4-Dimethylphenol	1500		21.8	38.4	380	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	1900		22.1	38.4	380	ug/Kg
120-83-2	2,4-Dichlorophenol	1800		14.6	38.4	380	ug/Kg
91-20-3	Naphthalene	1600		13.2	38.4	380	ug/Kg
106-47-8	4-Chloroaniline	810		27.1	38.4	380	ug/Kg
87-68-3	Hexachlorobutadiene	1700		13.9	38.4	380	ug/Kg
105-60-2	Caprolactam	1800		17.9	76.8	380	ug/Kg
59-50-7	4-Chloro-3-methylphenol	1700		17	38.4	380	ug/Kg
91-57-6	2-Methylnaphthalene	1900		9.7	38.4	380	ug/Kg
77-47-4	Hexachlorocyclopentadiene	3400	E	9.3	38.4	380	ug/Kg
88-06-2	2,4,6-Trichlorophenol	1700		11.7	38.4	380	ug/Kg
95-95-4	2,4,5-Trichlorophenol	1700		27	38.4	380	ug/Kg
92-52-4	1,1-Biphenyl	1500		14.5	38.4	380	ug/Kg
91-58-7	2-Chloronaphthalene	1700		8.8	38.4	380	ug/Kg
88-74-4	2-Nitroaniline	1900		17	38.4	380	ug/Kg
131-11-3	Dimethylphthalate	2000		10.4	38.4	380	ug/Kg
208-96-8	Acenaphthylene	1700		9.7	38.4	380	ug/Kg
606-20-2	2,6-Dinitrotoluene	1800		15.7	38.4	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MSD	SDG No.:	H1788
Lab Sample ID:	H1788-01MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.11 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085625.D	1	03/16/16 08:58	03/21/16 16:41	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
99-09-2	3-Nitroaniline	1200		24.6	76.8	380	ug/Kg
83-32-9	Acenaphthene	1700		10.8	38.4	380	ug/Kg
51-28-5	2,4-Dinitrophenol	2800		39	310	380	ug/Kg
100-02-7	4-Nitrophenol	2900		71.3	190	380	ug/Kg
132-64-9	Dibenzofuran	1900		15	38.4	380	ug/Kg
121-14-2	2,4-Dinitrotoluene	1900		11.5	38.4	380	ug/Kg
84-66-2	Diethylphthalate	1600		6	38.4	380	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	1600		20.8	38.4	380	ug/Kg
86-73-7	Fluorene	1800		14.5	38.4	380	ug/Kg
100-01-6	4-Nitroaniline	1500		50	76.8	380	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	1800		22	190	380	ug/Kg
86-30-6	n-Nitrosodiphenylamine	1800		9.2	38.4	380	ug/Kg
101-55-3	4-Bromophenyl-phenylether	1900		7.5	38.4	380	ug/Kg
118-74-1	Hexachlorobenzene	1900		15.7	38.4	380	ug/Kg
1912-24-9	Atrazine	1800		20.3	38.4	380	ug/Kg
87-86-5	Pentachlorophenol	3200	E	26.3	38.4	380	ug/Kg
85-01-8	Phenanthrene	1800		10.4	38.4	380	ug/Kg
120-12-7	Anthracene	1500		7.8	38.4	380	ug/Kg
86-74-8	Carbazole	1800		8.4	38.4	380	ug/Kg
84-74-2	Di-n-butylphthalate	1800		30.2	38.4	380	ug/Kg
206-44-0	Fluoranthene	1600		7.7	38.4	380	ug/Kg
129-00-0	Pyrene	1700		9.2	38.4	380	ug/Kg
85-68-7	Butylbenzylphthalate	1600		18.4	38.4	380	ug/Kg
91-94-1	3,3-Dichlorobenzidine	920		24.6	38.4	380	ug/Kg
56-55-3	Benzo(a)anthracene	1600		18.3	38.4	380	ug/Kg
218-01-9	Chrysene	1400		17.4	38.4	380	ug/Kg
117-81-7	Bis(2-ethylhexyl)phthalate	1500		13.6	38.4	380	ug/Kg
117-84-0	Di-n-octyl phthalate	1500		4.4	38.4	380	ug/Kg
205-99-2	Benzo(b)fluoranthene	1800		12.6	38.4	380	ug/Kg
207-08-9	Benzo(k)fluoranthene	1900		18.1	38.4	380	ug/Kg
50-32-8	Benzo(a)pyrene	1800		8.3	38.4	380	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1600		12.8	38.4	380	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	2000		11.1	38.4	380	ug/Kg

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)MSD	SDG No.:	H1788
Lab Sample ID:	H1788-01MSD	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	13.5
Sample Wt/Vol:	30.11 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF085625.D	1	03/16/16 08:58	03/21/16 16:41	PB88925

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
191-24-2	Benzo(g,h,i)perylene	2000		15.5	38.4	380	ug/Kg
95-94-3	1,2,4,5-Tetrachlorobenzene	1500		15.1	38.4	380	ug/Kg
58-90-2	2,3,4,6-Tetrachlorophenol	1800		15.1	38.4	380	ug/Kg
SURROGATES							
367-12-4	2-Fluorophenol	120		28 - 127		82%	SPK: 150
13127-88-3	Phenol-d6	130		34 - 127		88%	SPK: 150
4165-60-0	Nitrobenzene-d5	95.6		31 - 132		96%	SPK: 100
321-60-8	2-Fluorobiphenyl	100		39 - 123		102%	SPK: 100
118-79-6	2,4,6-Tribromophenol	120		30 - 133		83%	SPK: 150
1718-51-0	Terphenyl-d14	80.8		37 - 115		81%	SPK: 100
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	141609	6.85				
1146-65-2	Naphthalene-d8	558682	8.13				
15067-26-2	Acenaphthene-d10	266648	9.89				
1517-22-2	Phenanthrene-d10	505835	11.36				
1719-03-5	Chrysene-d12	372419	14				
1520-96-3	Perylene-d12	253801	15.42				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit

CHEMTECH 8B3 SheJJield Street, Mountainside, N+(H(98 Phone: 9(BHB9 B9((Fax: 9(BHB9 B988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MSD	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MSD	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779B.D	1	(2/1H/16 (9:2(	(2/8(/16 (7:16	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1((-78-H	Qenzaldehyde	H7	+	HH	1(	1((	ug/L
1(B-97-8	Phenol	21(		8.1	1(	1((	ug/L
111-33-3	bis58-Chloroethyl0ether	37(		7.7	1(	1((	ug/L
97-7H-B	8-Chlorophenol	31(		7.3	1(	1((	ug/L
97-3B-H	8-Methylphenol	31(		8.3	1(	1((	ug/L
1(B-6(-1	8,8-oxybis51-Chloropropane0	3((		1.H	1(	1((	ug/L
9B-B6-8	Acetophenone	29(		1.3	1(	1((	ug/L
67H-93-96-9	2k3-Methylphenols	3((		2.B	1(	1((	ug/L
681-63-H	n-Nitroso-di-n-propylamine	31(		8	1(	1((	ug/L
6H-H8-1	) exachloroethane	2B(		8.7	1(	1((	ug/L
9B-97-2	Nitrobenzene	32(		6.B	1(	1((	ug/L
HB-79-1	Isophorone	38(		2	1(	1((	ug/L
BB-H7-7	8-Nitrophenol	33(		7.8	1(	1((	ug/L
1(7-6H-9	8,3-Dimethylphenol	3((		H1	1(	1((	ug/L
111-91-1	bis58-Chloroethoxy0methane	33(		7.7	1(	1((	ug/L
18(-B2-8	8,3-Dichlorophenol	37(		6.6	1(	1((	ug/L
91-8(-2	Naphthalene	33(		1.8	1(	1((	ug/L
1(6-3H-B	3-Chloroaniline	97.B	+	1(	1(	1((	ug/L
BH-6B-2	) exachlorobutadiene	29(		8.7	1(	1((	ug/L
1(7-6(-8	Caprolactam	2B(		1(	1(	1((	ug/L
79-7(-H	3-Chloro-2-methylphenol	3((		3	1(	1((	ug/L
91-7H-6	8-Methylnaphthalene	3H(		2.8	1(	1((	ug/L
HH-3H-3	) exachlorocyclopentadiene	36(		8.3	1(	1((	ug/L
BB-(6-8	8,3,6-f richlorophenol	33(		7.6	1(	1((	ug/L
97-97-3	8,3,7-f richlorophenol	33(		3	1(	1((	ug/L
98-78-3	1,1-Qiphenyl	29(		1.7	1(	1((	ug/L
91-7B-H	8-Chloronaphthalene	31(		1.6	1(	1((	ug/L
BB-HB-3	8-Nitroaniline	39(		3.9	1(	1((	ug/L
121-11-2	Dimethylphthalate	36(		8.8	1(	1((	ug/L
8(B-96-B	Acenaphthylene	37(		H	1(	1((	ug/L
6(6-8(-8	8,6-Dinitrotoluene	32(		2.8	1(	1((	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MSD	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MSD	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779B.D	1	(2/1H/16 (9:2(	(2/8(/16 (7:16	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
99-(9-8	2-Nitroaniline	83(		1(	1(	1((	ug/L
B2-28-9	Acenaphthene	36(		8.1	1(	1((	ug/L
71-8B-7	8,3-Dinitrophenol	3((		81	B(	1((	ug/L
1((-(8-H	3-Nitrophenol	61(		8(	7(	1((	ug/L
128-63-9	DibenzoJuran	7((		8.3	1(	1((	ug/L
181-13-8	8,3-Dinitrotoluene	32(		1(	1(	1((	ug/L
B3-66-8	Diethylphthalate	36(		2.B	1(	1((	ug/L
H((7-H8-2	3-Chlorophenyl-phenylether	33(		8.1	1(	1((	ug/L
B6-H2-H	Fluorene	32(		2.1	1(	1((	ug/L
1((-(1-6	3-Nitroaniline	23(		12.6	8(	1((	ug/L
723-78-1	3,6-Dinitro-8-methylphenol	2((		H3	8(	1((	ug/L
B6-2(-6	n-Nitrosodiphenylamine	7((		6	1(	1((	ug/L
1(1-77-2	3-Qromophenyl-phenylether	72(		8.2	1(	1((	ug/L
11B-H3-1	) exachlorobenzene	3B(		1.B	1(	1((	ug/L
1918-83-9	Atrazine	76(		3	1(	1((	ug/L
BH-B6-7	Pentachlorophenol	HB(		1(	1(	1((	ug/L
B7-(1-B	Phenanthrene	3H(		8.6	1(	1((	ug/L
18(-18-H	Anthracene	32(		1.6	1(	1((	ug/L
B6-H3-B	Carbazole	37(		8.8	1(	1((	ug/L
B3-H3-8	Di-n-butylphthalate	7((		1(	1(	1((	ug/L
8(6-33-(	Fluoranthene	26(		3	1(	1((	ug/L
189-((-(	Pyrene	31(		8	1(	1((	ug/L
B7-6B-H	Qutylbenzylphthalate	31(		1.9	1(	1((	ug/L
91-93-1	2,2-Dichlorobenzidine	2((		1(	1(	1((	ug/L
76-77-2	Qenzo5a0anthracene	33(		1.6	1(	1((	ug/L
81B-(1-9	Chrysene	29(		1.B	1(	1((	ug/L
11H-B1-H	Qis58-ethylhexyl0phthalate	33(		1.6	1(	1((	ug/L
11H-B3-(	Di-n-octyl phthalate	7((		7.1	1(	1((	ug/L
8(7-99-8	Qenzo5b0Jluoranthene	38(		8.9	1(	1((	ug/L
8(H-(B-9	Qenzo5w0Jluoranthene	3H(		1.B	1(	1((	ug/L
7(-28-B	Qenzo5a0pyrene	3H(		1.3	1(	1((	ug/L
192-29-7	Indeno51,8,2-cd0pyrene	77(		1.7	1(	1((	ug/L
72-H(-2	Dibenzo5a,h0anthracene	3B(		3.8	1(	1((	ug/L

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	(2/13/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	(2/13/16
Client Sample ID:	GRID-BA-5(-1(0MSD	SDG No.:	) 1HBB
Lab Sample ID:	) 1H9(-(7MSD	Matrix:	4 ater
Analytical Method:	SWB8H(	% Moisture:	1((
Sample Wt/Vol:	1((Units: mL	Final Vol:	1(((uL
Soil Aliquot Vol:	uL	f est:	SVT CMS Group1
Extraction f ype :	Decanted : N	Level :	LT W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P) :

File ID/Oc Qatch:	Dilution:	Prep Date	Date Analyzed	Prep Qatch ID
QF(B779B.D	1	(2/1H/16 (9:2(	(2/8(/16 (7:16	PQBB939

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
191-83-8	Qenzo5g,h,i0perylene	33(		8.9	1(	1((	ug/L
97-93-2	1,8,3,7-f etrachlorobenzene	29(		8	1(	1((	ug/L
7B-9(-8	8,2,3,6-f etrachlorophenol	36(		8	1(	1((	ug/L
SURROGATES							
26H-18-3	8-Fluorophenol	12(		1(- 12(		B3%	SPK: 17(
1218H-BB-2	Phenol-d6	11(		1(- 12(		H2%	SPK: 17(
3167-6(-(	Nitrobenzene-d7	B9.H		26 - 121		9(%	SPK: 1((
281-6(-B	8-Fluorobiphenyl	1((		29 - 121		1(1%	SPK: 1((
11B-H9-6	8,3,6-f ribromophenol	12(		87 - 177		B7%	SPK: 17(
1H1B-71-(	f erphenyl-d13	9B.2		82 - 12(		9B%	SPK: 1((
INTERNAL STANDARDS							
2B77-B8-1	1,3-Dichlorobenzene-d3	128HB8	6.B6				
1136-67-8	Naphthalene-dB	712H97	B.13				
17(6H-86-8	Acenaphthene-d1(	82173H	9.9				
171H-88-8	Phenanthrene-d1(	268((1	11.2H				
1H19-(2-7	Chrysene-d18	87(633	13.(1				
178(-96-2	Perylene-d18	8729H(	17.33				

U = Not Detected
LT O = Limit oJ Ouantitation
MDL = Method Detection Limit
LT D = Limit oJ Detection
E = Value Exceeds Calibration Range
O = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

+= Estimated Value
Q = Analyte Found in Associated Method Qlanw
N = Presumptive Evidence oJ a Compound
* = Values outside oJ OC limits
D = Dilution
50= Laboratory In) ouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/15/2016 03/15/2016

Calibration Time(s): 14:21 17:11

LAB FILE ID: RRF2.5 = BF085454.D RRF010 = BF085455.D RRF025 = BF085456.D
RRF040 = BF085457.D RRF050 = BF085458.D RRF060 = BF085459.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2-Fluorophenol	1.327	1.318	1.315	1.034	1.051	1.004	1.163	12.8
Benzaldehyde	1.005	0.973	0.895	0.669	0.671		0.843	19.3
Phenol-d6	1.755	1.651	1.613	1.430	1.430	1.371	1.509	10.8
Phenol	1.917	1.871	1.894	1.480	1.632	1.472	1.692	11.7
bis(2-Chloroethyl)ether	1.446	1.506	1.275	1.220	1.320	1.151	1.301	10.2
2-Chlorophenol	1.608	1.555	1.450	1.251	1.304	1.177	1.364	12.7
2-Methylphenol	1.191	1.138	1.248	1.170	1.108	1.108	1.142	6.1
2,2-oxybis(1-Chloropropane)	1.990	1.967	1.799	1.726	1.683	1.640	1.772	8.8
Acetophenone	0.579	0.558	0.532	0.435	0.412	0.424	0.490	15.1
3+4-Methylphenols		1.607	1.401	1.101	1.112	1.080	1.224	18.6
n-Nitroso-di-n-propylamine		1.067	1.054	0.810	0.895	0.771	0.904	14.1
Nitrobenzene-d5	0.363	0.375	0.356	0.324	0.338	0.302	0.338	8.2
Hexachloroethane	0.602	0.597	0.590	0.545	0.551	0.517	0.556	7.9
Nitrobenzene	0.425	0.401	0.420	0.383	0.342	0.377	0.381	10.2
Isophorone	0.753	0.707	0.730	0.679	0.671	0.650	0.690	6.1
2-Nitrophenol	0.168	0.185	0.190	0.191	0.201	0.184	0.183	8.0
2,4-Dimethylphenol	0.337	0.333	0.369	0.318	0.303	0.313	0.325	7.4
bis(2-Chloroethoxy)methane	0.458	0.473	0.407	0.408	0.408	0.392	0.412	10.4
2,4-Dichlorophenol	0.276	0.281	0.296	0.250	0.252	0.238	0.263	8.0
Naphthalene		1.211	1.017	0.961	0.937	0.910	0.977	13.4
4-Chloroaniline	0.483	0.469	0.417	0.415	0.423	0.403	0.420	11.6
Hexachlorobutadiene	0.161	0.165	0.163	0.163	0.159	0.155	0.159	3.7
Caprolactam	0.083	0.083	0.089	0.084	0.087	0.091	0.086	3.7
4-Chloro-3-methylphenol	0.339	0.362	0.299	0.264	0.285	0.261	0.301	12.5
2-Methylnaphthalene	0.682	0.688	0.697	0.538	0.585	0.523	0.619	12.9
Hexachlorocyclopentadiene		0.252	0.286	0.331	0.303	0.316	0.301	9.3
2,4,6-Trichlorophenol	0.408	0.440	0.434	0.411	0.395	0.390	0.411	4.8
2-Fluorobiphenyl		1.437	1.337	1.082	1.128	1.000	1.153	17.0
2,4,5-Trichlorophenol	0.436	0.416	0.405	0.432	0.429	0.405	0.415	4.7
1,1-Biphenyl		1.981	1.650	1.650	1.711	1.555	1.632	14.6
2-Chloronaphthalene	1.374	1.302	1.296	1.188	1.234	1.135	1.223	9.4
2-Nitroaniline	0.375	0.373	0.405	0.360	0.369	0.334	0.370	5.7
Dimethylphthalate	1.594	1.629	1.445	1.496	1.304	1.442	1.459	8.7
Acenaphthylene	2.166	2.153	2.238	1.874	1.805	1.774	1.979	10.0
2,6-Dinitrotoluene	0.286	0.298	0.342	0.373	0.340	0.357	0.322	12.8
3-Nitroaniline	0.379	0.383	0.411	0.423	0.338	0.415	0.385	8.5

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/15/2016 03/15/2016

Calibration Time(s): 14:21 17:11

LAB FILE ID: RRF2.5 = BF085454.D RRF010 = BF085455.D RRF025 = BF085456.D
RRF040 = BF085457.D RRF050 = BF085458.D RRF060 = BF085459.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
Acenaphthene	1.324	1.340	1.351	1.234	1.121	1.152	1.244	7.6
2,4-Dinitrophenol		0.076	0.133	0.170	0.152	0.176	0.147	26.6
4-Nitrophenol	0.233	0.275	0.256	0.263	0.269	0.268	0.265	6.9
Dibenzofuran	1.732	1.664	1.716	1.440	1.375	1.369	1.528	10.9
2,4-Dinitrotoluene	0.365	0.410	0.404	0.430	0.457	0.390	0.404	7.9
Diethylphthalate	1.696	1.480	1.490	1.297	1.336	1.247	1.413	10.9
4-Chlorophenyl-phenylether	0.728	0.723	0.633	0.605	0.553	0.565	0.626	11.7
Fluorene		1.448	1.428	1.133	1.125	1.093	1.219	14.0
4-Nitroaniline	0.370	0.345	0.364	0.386	0.339	0.395	0.362	6.3
4,6-Dinitro-2-methylphenol		0.077	0.116	0.137	0.138	0.124	0.119	18.6
n-Nitrosodiphenylamine	0.736	0.695	0.624	0.575	0.610	0.516	0.616	12.5
2,4,6-Tribromophenol	0.156	0.170	0.194	0.204	0.176	0.197	0.184	9.4
4-Bromophenyl-phenylether	0.221	0.214	0.214	0.196	0.190	0.185	0.202	6.8
Hexachlorobenzene	0.209	0.217	0.221	0.204	0.198	0.197	0.209	4.6
Atrazine	0.194	0.214	0.175	0.163	0.169	0.143	0.176	14.1
Pentachlorophenol		0.088	0.110	0.121	0.123	0.116	0.111	11.7
Phenanthrene	1.216	1.163	1.121	0.968	0.931	0.926	1.042	11.6
Anthracene	1.271	1.167	1.123	1.034	1.082	0.937	1.061	14.2
Carbazole	1.013	0.994	1.006	0.824	0.812	0.789	0.898	11.3
Di-n-butylphthalate		1.303	1.266	1.073	1.122	1.007	1.112	13.7
Fluoranthene	1.122	1.129	1.098	0.893	0.919	0.845	0.979	13.4
Pyrene	1.669	1.658	1.744	1.393	1.377	1.289	1.500	12.2
Terphenyl-d14	1.038	0.977	0.879	0.882	0.906	0.810	0.884	12.5
Butylbenzylphthalate	0.660	0.699	0.725	0.666	0.672	0.618	0.656	8.6
3,3-Dichlorobenzidine	0.412	0.422	0.393	0.401	0.379	0.363	0.388	7.0
Benzo(a)anthracene	1.340	1.259	1.203	1.101	1.140	1.026	1.147	11.6
Chrysene	1.271	1.221	1.201	0.902	0.870	0.839	1.031	18.4
Bis(2-ethylhexyl)phthalate	0.871	0.860	0.855	0.795	0.774	0.739	0.800	8.0
Di-n-octyl phthalate	1.293	1.251	1.247	1.146	1.154	1.069	1.168	8.7
Benzo(b)fluoranthene	1.287	1.600	1.430	1.145	1.160	1.147	1.306	13.2
Benzo(k)fluoranthene		0.968	0.981	1.121	1.134	1.154	1.023	14.1
Benzo(a)pyrene	1.222	1.177	1.136	1.104	1.087	1.120	1.128	5.0
Indeno(1,2,3-cd)pyrene	0.928	0.895	0.970	1.050	1.015	0.964	0.978	5.6
Dibenzo(a,h)anthracene	1.091	1.053	1.125	1.132	1.106	1.112	1.102	2.4
Benzo(g,h,i)perylene	1.115	1.069	1.149	1.156	1.109	1.140	1.126	2.7
1,2,4,5-Tetrachlorobenzene	0.682	0.631	0.576	0.663	0.614	0.619	0.622	6.7

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/15/2016 03/15/2016

Calibration Time(s): 14:21 17:11

LAB FILE ID: RRF2.5 = BF085454.D RRF010 = BF085455.D RRF025 = BF085456.D
RRF040 = BF085457.D RRF050 = BF085458.D RRF060 = BF085459.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2,3,4,6-Tetrachlorophenol	0.278	0.294	0.292	0.297	0.270	0.289	0.285	3.7

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

Response Factor Report Instrumen

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031516.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Tue Mar 15 18:57:05 2016
Response Via : Initial Calibration

Calibration Files
2.5 =BF085454.D 10 =BF085455.D 25 =BF085456.D 40 =BF085457.D 50 =BF085458.D 60 =BF085459.D 80 =BF085460.D

		Compound	2.5	10	25	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------								
2)		1,4-Dioxane	0.710	0.554	0.592	0.556	0.567	0.545	0.539	0.581	10.23
3)		Pyridine	1.383	1.346	1.457	1.369	1.361	1.381	1.351	1.378	2.73
4)		n-Nitrosodimet...	0.731	0.674	0.635	0.626	0.602	0.592	0.595	0.636	7.93
5)	S	2-Fluorophenol	1.327	1.318	1.315	1.034	1.051	1.004	1.095	1.163	12.79
6)		Aniline	2.224	2.181	2.270	2.085	2.082	1.942	1.800	2.083	7.95
7)	S	Phenol-d6	1.755	1.651	1.613	1.430	1.430	1.371	1.314	1.509	10.85
8)		2-Chlorophenol	1.608	1.555	1.450	1.251	1.304	1.177	1.206	1.364	12.68
9)		Benzaldehyde	1.005	0.973	0.895	0.669	0.671			0.843	19.27
10)	C	Phenol	1.917	1.871	1.894	1.480	1.632	1.472	1.577	1.692	11.68
11)		bis(2-Chloroet...	1.446	1.506	1.275	1.220	1.320	1.151	1.189	1.301	10.21
12)		1,3-Dichlorobe...	1.695	1.687	1.511	1.479	1.465	1.417	1.329	1.512	8.95
13)	C	1,4-Dichlorobe...	1.805	1.774	1.608	1.386	1.371	1.319	1.339	1.515	13.92
14)		1,2-Dichlorobe...	1.549	1.497	1.452	1.265	1.316	1.189	1.034	1.329	13.83
15)		Benzyl Alcohol	1.181	1.164	1.253	1.083	1.028	1.000	0.837	1.078	12.88
16)		2,2'-oxybis(1-...	1.990	1.967	1.799	1.726	1.683	1.640	1.596	1.772	8.78
17)		2-Methylphenol	1.191	1.138	1.248	1.170	1.108	1.108	1.030	1.142	6.11
18)		Hexachloroethane	0.602	0.597	0.590	0.545	0.551	0.517	0.486	0.556	7.88
19)	P	n-Nitroso-di-n...		1.067	1.054	0.810	0.895	0.771	0.826	0.904	14.15
20)		3+4-Methylphenols		1.607	1.401	1.101	1.112	1.080	1.045	1.224	18.57
21)	I	Naphthalene-d8	----------ISTD----------								
22)		Acetophenone	0.579	0.558	0.532	0.435	0.412	0.424		0.490	15.14
23)	S	Nitrobenzene-d5	0.363	0.375	0.356	0.324	0.338	0.302	0.309	0.338	8.22
24)		Nitrobenzene	0.425	0.401	0.420	0.383	0.342	0.377	0.320	0.381	10.22
25)		Isophorone	0.753	0.707	0.730	0.679	0.671	0.650	0.638	0.690	6.11
26)	C	2-Nitrophenol	0.168	0.185	0.190	0.191	0.201	0.184	0.158	0.183	8.04
27)		2,4-Dimethylph...	0.337	0.333	0.369	0.318	0.303	0.313	0.301	0.325	7.35
28)		bis(2-Chloroet...	0.458	0.473	0.407	0.408	0.408	0.392	0.342	0.412	10.42
29)	C	2,4-Dichloroph...	0.276	0.281	0.296	0.250	0.252	0.238	0.252	0.263	7.99
30)		1,2,4-Trichlor...	0.347	0.339	0.313	0.293	0.287	0.279	0.274	0.304	9.57
31)		Naphthalene		1.211	1.017	0.961	0.937	0.910	0.828	0.977	13.36
32)		Benzoic acid		0.156	0.200	0.202	0.190	0.172	0.201	0.187	10.12
33)		4-Chloroaniline	0.483	0.469	0.417	0.415	0.423	0.403	0.333	0.420	11.64
34)	C	Hexachlorobuta...	0.161	0.165	0.163	0.163	0.159	0.155	0.148	0.159	3.71
35)		Caprolactam	0.083	0.083	0.089	0.084	0.087	0.091	0.085	0.086	3.73
36)	C	4-Chloro-3-met...	0.339	0.362	0.299	0.264	0.285	0.261	0.296	0.301	12.47
37)		2-Methylnaphth...	0.682	0.688	0.697	0.538	0.585	0.523		0.619	12.85

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031516.M

38)	I	Acenaphthene-d10	----------ISTD----------								
39)		1,2,4,5-Tetrac...	0.682	0.631	0.576	0.663	0.614	0.619	0.570	0.622	6.68
40)	P	Hexachlorocycl...		0.252	0.286	0.331	0.303	0.316	0.315	0.301	9.32
41)	S	2,4,6-Tribromo...	0.156	0.170	0.194	0.204	0.176	0.197	0.192	0.184	9.42
42)	C	2,4,6-Trichlor...	0.408	0.440	0.434	0.411	0.395	0.390	0.397	0.411	4.77
43)		2,4,5-Trichlor...	0.436	0.416	0.405	0.432	0.429	0.405	0.381	0.415	4.73
44)	S	2-Fluorobiphenyl		1.437	1.337	1.082	1.128	1.000	0.933	1.153	17.00
45)		1,1'-Biphenyl		1.981	1.650	1.650	1.711	1.555	1.248	1.632	14.56
46)		2-Chloronaphth...	1.374	1.302	1.296	1.188	1.234	1.135	1.033	1.223	9.41
47)		2-Nitroaniline	0.375	0.373	0.405	0.360	0.369	0.334	0.376	0.370	5.68
48)		Acenaphthylene	2.166	2.153	2.238	1.874	1.805	1.774	1.839	1.979	10.01
49)		Dimethylphthalate	1.594	1.629	1.445	1.495	1.304	1.442	1.304	1.459	8.72
50)		2,6-Dinitrotol...	0.286	0.298	0.342	0.373	0.340	0.357	0.261	0.322	12.79
51)	C	Acenaphthene	1.324	1.340	1.351	1.234	1.121	1.152	1.188	1.244	7.63
52)		3-Nitroaniline	0.379	0.383	0.411	0.423	0.338	0.415	0.350	0.385	8.52
53)	P	2,4-Dinitrophenol		0.076	0.133	0.170	0.152	0.176	0.178	0.147	26.56
54)		Dibenzofuran	1.732	1.664	1.716	1.440	1.375	1.369	1.403	1.528	10.94
55)	P	4-Nitrophenol	0.233	0.275	0.256	0.263	0.269	0.268	0.293	0.265	6.94
56)		2,4-Dinitrotol...	0.365	0.410	0.404	0.430	0.457	0.390	0.375	0.404	7.86
57)		Fluorene		1.448	1.428	1.133	1.125	1.093	1.086	1.219	14.02
58)		2,3,4,6-Tetrac...	0.278	0.294	0.292	0.297	0.270	0.289	0.275	0.285	3.66
59)		Diethylphthalate	1.696	1.480	1.490	1.297	1.336	1.247	1.341	1.413	10.92
60)		4-Chlorophenyl...	0.728	0.723	0.633	0.605	0.553	0.565	0.575	0.626	11.66
61)		4-Nitroaniline	0.370	0.345	0.364	0.386	0.339	0.395	0.338	0.362	6.33
62)		Azobenzene	1.528	1.555	1.380	1.398	1.325	1.292	1.341	1.403	7.22
63)	I	Phenanthrene-d10	----------ISTD----------								
64)		4,6-Dinitro-2-...		0.077	0.116	0.137	0.138	0.124	0.125	0.119	18.64
65)	c	n-Nitrosodiphe...	0.736	0.695	0.624	0.575	0.610	0.516	0.558	0.616	12.50
66)		4-Bromophenyl-...	0.221	0.214	0.214	0.196	0.190	0.185	0.198	0.202	6.78
67)		Hexachlorobenzene	0.209	0.217	0.221	0.204	0.198	0.197	0.216	0.209	4.61
68)		Atrazine	0.194	0.214	0.175	0.163	0.169	0.143		0.176	14.12
69)	C	Pentachlorophenol		0.088	0.110	0.121	0.123	0.116	0.106	0.111	11.65
70)		Phenanthrene	1.216	1.163	1.121	0.968	0.931	0.926	0.967	1.042	11.63
71)		Anthracene	1.271	1.167	1.123	1.034	1.082	0.937	0.814	1.061	14.22
72)		Carbazole	1.013	0.994	1.006	0.824	0.812	0.789	0.847	0.898	11.27
73)		Di-n-butylphth...		1.303	1.266	1.073	1.122	1.007	0.902	1.112	13.74
74)	C	Fluoranthene	1.122	1.129	1.098	0.893	0.919	0.845	0.849	0.979	13.38
75)	I	Chrysene-d12	----------ISTD----------								
76)		Benzidine	0.616	0.738	0.698	0.582	0.562	0.531		0.621	13.01
77)		Pyrene	1.669	1.658	1.744	1.393	1.377	1.289	1.371	1.500	12.20
78)	S	Terphenyl-d14	1.038	0.977	0.879	0.882	0.906	0.810	0.697	0.884	12.48
79)		Butylbenzylpht...	0.660	0.699	0.725	0.666	0.672	0.618	0.552	0.656	8.64
80)		Benzo(a)anthra...	1.340	1.259	1.203	1.101	1.140	1.026	0.958	1.147	11.57
81)		3,3'-Dichlorob...	0.412	0.422	0.393	0.401	0.379	0.363	0.346	0.388	6.97
82)		Chrysene	1.271	1.221	1.201	0.902	0.870	0.839	0.915	1.031	18.39

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031516.M

83)		Bis(2-ethylhex...	0.871	0.860	0.855	0.795	0.774	0.739	0.708	0.800	7.99
84)	c	Di-n-octyl pht...	1.293	1.251	1.247	1.146	1.154	1.069	1.017	1.168	8.71
85)		Indeno(1,2,3-c...	0.928	0.895	0.970	1.050	1.015	0.964	1.023	0.978	5.63
86)	I	Perylene-d12	----------ISTD----------								
87)		Benzo(b)fluora...	1.287	1.600	1.430	1.145	1.160	1.147	1.375	1.306	13.25
88)		Benzo(k)fluora...		0.968	0.981	1.121	1.134	1.154	0.779	1.023	14.06
89)	C	Benzo(a)pyrene	1.222	1.177	1.136	1.104	1.087	1.120	1.054	1.128	5.01
90)		Dibenzo(a,h)an...	1.091	1.053	1.125	1.132	1.106	1.112	1.098	1.102	2.38
91)		Benzo(g,h,i)pe...	1.115	1.069	1.149	1.156	1.109	1.140	1.142	1.126	2.72

(#) = Out of Range

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/18/2016 03/18/2016

Calibration Time(s): 17:19 20:10

LAB FILE ID: RRF2.5 = BF085537.D RRF010 = BF085538.D RRF025 = BF085539.D
RRF040 = BF085540.D RRF050 = BF085541.D RRF060 = BF085542.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2-Fluorophenol	1.296	1.314	1.256	1.263	1.103	1.038	1.191	9.8
Benzaldehyde	1.018	0.951	0.868	0.719	0.649	0.617	0.768	23.3
Phenol-d6	1.675	1.744	1.580	1.576	1.406	1.447	1.527	10.9
Phenol	1.911	2.047	1.725	1.930	1.486	1.699	1.739	14.0
bis(2-Chloroethyl)ether	1.450	1.463	1.305	1.376	1.150	1.155	1.311	9.8
2-Chlorophenol	1.546	1.484	1.491	1.412	1.239	1.210	1.377	10.0
2-Methylphenol	1.194	1.217	1.176	1.146	1.136	1.091	1.142	5.6
2,2-oxybis(1-Chloropropane)	1.904	1.773	1.792	1.802	1.704	1.633	1.725	8.3
Acetophenone	0.583	0.544	0.516	0.443	0.448	0.419	0.475	15.9
3+4-Methylphenols	1.649	1.575	1.466	1.260	1.185	1.194	1.323	19.2
n-Nitroso-di-n-propylamine	1.118	0.982	0.898	0.949	0.769	0.856	0.912	12.8
Nitrobenzene-d5	0.368	0.395	0.356	0.367	0.321	0.296	0.345	10.5
Hexachloroethane	0.604	0.578	0.580	0.560	0.539	0.525	0.553	7.3
Nitrobenzene	0.422	0.386	0.425	0.361	0.376	0.381	0.377	12.1
Isophorone	0.737	0.703	0.719	0.684	0.686	0.657	0.690	4.8
2-Nitrophenol	0.180	0.185	0.202	0.210	0.193	0.169	0.186	8.9
2,4-Dimethylphenol	0.359	0.370	0.340	0.315	0.335	0.317	0.330	10.0
bis(2-Chloroethoxy)methane	0.466	0.411	0.397	0.421	0.387	0.341	0.392	12.4
2,4-Dichlorophenol	0.280	0.282	0.300	0.283	0.257	0.250	0.272	7.0
Naphthalene	1.229	1.186	1.008	0.958	0.949	0.911	1.010	14.5
4-Chloroaniline	0.448	0.437	0.429	0.446	0.410	0.362	0.414	9.0
Hexachlorobutadiene	0.168	0.172	0.169	0.169	0.164	0.152	0.162	6.4
Caprolactam	0.092	0.093	0.105	0.096	0.088	0.091	0.094	6.1
4-Chloro-3-methylphenol	0.346	0.350	0.331	0.333	0.278	0.316	0.318	10.0
2-Methylnaphthalene	0.702	0.679	0.693	0.655	0.589	0.528	0.615	15.1
Hexachlorocyclopentadiene	0.187	0.255	0.276	0.280	0.299	0.301	0.273	15.8
2,4,6-Trichlorophenol	0.429	0.465	0.435	0.397	0.396	0.393	0.415	6.8
2-Fluorobiphenyl	1.696	1.454	1.286	1.264	1.112	1.006	1.250	21.2
2,4,5-Trichlorophenol	0.462	0.441	0.417	0.421	0.428	0.404	0.423	5.8
1,1-Biphenyl	2.158	2.021	1.692	1.630	1.686	1.575	1.725	16.3
2-Chloronaphthalene	1.469	1.397	1.255	1.258	1.244	1.173	1.260	11.5
2-Nitroaniline	0.381	0.380	0.419	0.405	0.352	0.348	0.381	6.8
Dimethylphthalate	1.659	1.660	1.565	1.440	1.421	1.515	1.509	8.7
Acenaphthylene	2.470	2.241	2.207	2.077	1.834	1.719	2.040	14.1
2,6-Dinitrotoluene	0.300	0.324	0.339	0.293	0.361	0.344	0.319	10.2
3-Nitroaniline	0.414	0.408	0.432	0.366	0.394	0.441	0.399	9.2

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/18/2016 03/18/2016

Calibration Time(s): 17:19 20:10

LAB FILE ID: RRF2.5 = BF085537.D RRF010 = BF085538.D RRF025 = BF085539.D
RRF040 = BF085540.D RRF050 = BF085541.D RRF060 = BF085542.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
Acenaphthene	1.484	1.392	1.398	1.275	1.130	1.132	1.280	11.5
2,4-Dinitrophenol		0.149	0.198	0.183	0.221	0.229	0.195	14.6
4-Nitrophenol	0.298	0.320	0.316	0.319	0.307	0.340	0.308	8.2
Dibenzofuran	1.839	1.723	1.759	1.576	1.408	1.338	1.559	14.4
2,4-Dinitrotoluene	0.395	0.455	0.416	0.444	0.424	0.375	0.417	6.6
Diethylphthalate	1.833	1.608	1.569	1.440	1.303	1.366	1.501	12.2
4-Chlorophenyl-phenylether	0.752	0.754	0.681	0.573	0.545	0.557	0.634	14.6
Fluorene	1.597	1.475	1.415	1.335	1.170	1.074	1.299	16.5
4-Nitroaniline	0.387	0.384	0.376	0.422	0.397	0.395	0.393	3.7
4,6-Dinitro-2-methylphenol	0.094	0.117	0.145	0.129	0.142	0.120	0.128	15.3
n-Nitrosodiphenylamine	0.742	0.745	0.622	0.647	0.580	0.514	0.623	15.5
2,4,6-Tribromophenol	0.193	0.189	0.210	0.193	0.177	0.197	0.196	6.2
4-Bromophenyl-phenylether	0.207	0.215	0.223	0.207	0.189	0.177	0.200	8.8
Hexachlorobenzene	0.226	0.216	0.231	0.229	0.206	0.194	0.212	8.4
Atrazine	0.223	0.222	0.200	0.205	0.154	0.135	0.190	19.3
Pentachlorophenol	0.115	0.127	0.132	0.137	0.135	0.135	0.129	6.2
Phenanthrene	1.295	1.206	1.172	1.101	0.940	0.853	1.055	17.7
Anthracene	1.345	1.328	1.099	0.998	1.031	1.034	1.106	15.2
Carbazole	1.149	1.073	1.081	0.994	0.839	0.773	0.954	16.6
Di-n-butylphthalate	1.402	1.358	1.358	1.242	1.083	0.994	1.195	16.2
Fluoranthene	1.363	1.263	1.097	1.056	1.057	1.018	1.104	14.6
Pyrene	1.441	1.435	1.375	1.485	1.575	1.404	1.436	5.4
Terphenyl-d14	0.817	0.855	0.821	0.762	0.892	0.855	0.831	5.0
Butylbenzylphthalate	0.643	0.646	0.676	0.702	0.749	0.697	0.685	5.3
3,3-Dichlorobenzidine	0.420	0.432	0.470	0.417	0.419	0.424	0.426	5.2
Benzo(a)anthracene	1.172	1.237	1.192	1.136	1.174	1.128	1.161	4.2
Chrysene	1.197	1.087	1.115	1.224	1.199	1.040	1.117	8.7
Bis(2-ethylhexyl)phthalate	0.921	0.872	0.861	0.845	0.868	0.791	0.850	5.4
Di-n-octyl phthalate	1.482	1.429	1.523	1.432	1.379	1.277	1.386	8.7
Benzo(b)fluoranthene	1.442	1.313	1.172	1.174	1.435	1.383	1.305	9.1
Benzo(k)fluoranthene	1.064	1.119	1.228	1.285	0.911	0.922	1.075	13.5
Benzo(a)pyrene	1.144	1.139	1.132	1.122	1.072	1.074	1.106	3.2
Indeno(1,2,3-cd)pyrene	1.033	0.901	0.955	0.873	0.940	0.842	0.933	7.1
Dibenzo(a,h)anthracene	0.980	0.905	0.903	0.882	0.945	0.871	0.923	4.7
Benzo(g,h,i)perylene	0.969	0.859	0.856	0.846	0.916	0.849	0.893	6.0
1,2,4,5-Tetrachlorobenzene	0.687	0.656	0.580	0.541	0.599	0.602	0.607	8.2

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date(s): 03/18/2016 03/18/2016

Calibration Time(s): 17:19 20:10

LAB FILE ID: RRF2.5 = BF085537.D RRF010 = BF085538.D RRF025 = BF085539.D
RRF040 = BF085540.D RRF050 = BF085541.D RRF060 = BF085542.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2,3,4,6-Tetrachlorophenol	0.323	0.325	0.319	0.289	0.284	0.299	0.304	5.7

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

Response Factor Report Instrumen

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Fri Mar 18 23:31:39 2016
Response Via : Initial Calibration

Calibration Files
2.5 =BF085537.D 10 =BF085538.D 25 =BF085539.D 40 =BF085540.D 50 =BF085541.D 60 =BF085542.D 80 =BF085543.D

		Compound	2.5	10	25	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------								
2)		1,4-Dioxane	0.671	0.547	0.570	0.598	0.566	0.553	0.547	0.579	7.64
3)		Pyridine	1.294	1.348	1.311	1.441	1.554	1.527	1.474	1.421	7.36
4)		n-Nitrosodimet...	0.639	0.541	0.612	0.588	0.587	0.599	0.588	0.593	5.00
5)	S	2-Fluorophenol	1.296	1.314	1.256	1.263	1.103	1.038	1.065	1.191	9.84
6)		Aniline	2.170	2.180	2.192	2.067	2.006	1.901	1.843	2.051	6.86
7)	S	Phenol-d6	1.675	1.744	1.580	1.576	1.406	1.447	1.262	1.527	10.88
8)		2-Chlorophenol	1.546	1.484	1.491	1.412	1.239	1.210	1.261	1.377	10.03
9)		Benzaldehyde	1.018	0.951	0.868	0.719	0.649	0.617	0.552	0.768	23.29
10)	C	Phenol	1.911	2.047	1.725	1.930	1.486	1.699	1.378	1.739	14.02
11)		bis(2-Chloroet...	1.450	1.463	1.305	1.376	1.150	1.155	1.280	1.311	9.76
12)		1,3-Dichlorobe...	1.697	1.609	1.533	1.492	1.453	1.434	1.289	1.501	8.72
13)	C	1,4-Dichlorobe...	1.826	1.684	1.552	1.468	1.395	1.403	1.389	1.531	10.99
14)		1,2-Dichlorobe...	1.539	1.492	1.485	1.459	1.273	1.187	1.081	1.359	13.11
15)		Benzyl Alcohol	1.226	1.208	1.089	1.031	1.022	0.922	0.823	1.046	13.89
16)		2,2'-oxybis(1-...	1.904	1.773	1.792	1.802	1.704	1.633	1.464	1.725	8.26
17)		2-Methylphenol	1.194	1.217	1.176	1.146	1.136	1.091	1.032	1.142	5.55
18)		Hexachloroethane	0.604	0.578	0.580	0.560	0.539	0.525	0.484	0.553	7.30
19)	P	n-Nitroso-di-n...	1.118	0.982	0.898	0.949	0.769	0.856	0.813	0.912	12.84
20)		3+4-Methylphenols	1.649	1.575	1.466	1.260	1.185	1.194	0.929	1.323	19.15
21)	I	Naphthalene-d8	----------ISTD----------								
22)		Acetophenone	0.583	0.544	0.516	0.443	0.448	0.419	0.369	0.475	15.93
23)	S	Nitrobenzene-d5	0.368	0.395	0.356	0.367	0.321	0.296	0.310	0.345	10.49
24)		Nitrobenzene	0.422	0.386	0.425	0.361	0.376	0.381	0.289	0.377	12.08
25)		Isophorone	0.737	0.703	0.719	0.684	0.686	0.657	0.642	0.690	4.81
26)	C	2-Nitrophenol	0.180	0.185	0.202	0.210	0.193	0.169	0.165	0.186	8.88
27)		2,4-Dimethylph...	0.359	0.370	0.340	0.315	0.335	0.317	0.271	0.330	9.98
28)		bis(2-Chloroet...	0.466	0.411	0.397	0.421	0.387	0.341	0.323	0.392	12.36
29)	C	2,4-Dichloroph...	0.280	0.282	0.300	0.283	0.257	0.250	0.253	0.272	6.96
30)		1,2,4-Trichlor...	0.344	0.328	0.309	0.298	0.295	0.283	0.276	0.305	7.91
31)		Naphthalene	1.229	1.186	1.008	0.958	0.949	0.911	0.826	1.010	14.51
32)		Benzoic acid	0.253	0.259	0.274	0.284	0.291	0.283	0.285	0.276	5.30
33)		4-Chloroaniline	0.448	0.437	0.429	0.446	0.410	0.362	0.364	0.414	8.97
34)	C	Hexachlorobuta...	0.168	0.172	0.169	0.169	0.164	0.152	0.144	0.162	6.43
35)		Caprolactam	0.092	0.093	0.105	0.096	0.088	0.091	0.090	0.094	6.05
36)	C	4-Chloro-3-met...	0.346	0.350	0.331	0.333	0.278	0.316	0.270	0.318	10.02
37)		2-Methylnaphth...	0.702	0.679	0.693	0.655	0.589	0.528	0.460	0.615	15.08

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M

38)	I	Acenaphthene-d10	----------ISTD----------								
39)		1,2,4,5-Tetrac...	0.687	0.656	0.580	0.541	0.599	0.602	0.581	0.607	8.17
40)	P	Hexachlorocycl...	0.187	0.255	0.276	0.280	0.299	0.301	0.316	0.273	15.75
41)	S	2,4,6-Tribromo...	0.193	0.189	0.210	0.193	0.177	0.197	0.212	0.196	6.16
42)	C	2,4,6-Trichlor...	0.429	0.465	0.435	0.397	0.396	0.393	0.393	0.415	6.80
43)		2,4,5-Trichlor...	0.462	0.441	0.417	0.421	0.428	0.404	0.386	0.423	5.81
44)	S	2-Fluorobiphenyl	1.696	1.454	1.286	1.264	1.112	1.006	0.935	1.250	21.17
45)		1,1'-Biphenyl	2.158	2.021	1.692	1.630	1.686	1.575	1.316	1.725	16.33
46)		2-Chloronaphth...	1.469	1.397	1.255	1.258	1.244	1.173	1.025	1.260	11.49
47)		2-Nitroaniline	0.381	0.380	0.419	0.405	0.352	0.348	0.384	0.381	6.76
48)		Acenaphthylene	2.470	2.241	2.207	2.077	1.834	1.719	1.729	2.040	14.10
49)		Dimethylphthalate	1.659	1.660	1.565	1.440	1.421	1.515	1.303	1.509	8.69
50)		2,6-Dinitrotol...	0.300	0.324	0.339	0.293	0.361	0.344	0.269	0.319	10.17
51)	C	Acenaphthene	1.484	1.392	1.398	1.275	1.130	1.132	1.148	1.280	11.51
52)		3-Nitroaniline	0.414	0.408	0.432	0.366	0.394	0.441	0.338	0.399	9.18
53)	P	2,4-Dinitrophenol		0.149	0.198	0.183	0.221	0.229	0.190	0.195	14.61
54)		Dibenzofuran	1.839	1.723	1.759	1.576	1.408	1.338	1.268	1.559	14.39
55)	P	4-Nitrophenol	0.298	0.320	0.316	0.319	0.307	0.340	0.259	0.308	8.15
56)		2,4-Dinitrotol...	0.395	0.455	0.416	0.444	0.424	0.375	0.411	0.417	6.57
57)		Fluorene	1.597	1.475	1.415	1.335	1.170	1.074	1.026	1.299	16.52
58)		2,3,4,6-Tetrac...	0.323	0.325	0.319	0.289	0.284	0.299	0.291	0.304	5.70
59)		Diethylphthalate	1.833	1.608	1.569	1.440	1.303	1.366	1.384	1.501	12.21
60)		4-Chlorophenyl...	0.752	0.754	0.681	0.573	0.545	0.557	0.578	0.634	14.56
61)		4-Nitroaniline	0.387	0.384	0.376	0.422	0.397	0.395	0.393	0.393	3.72
62)		Azobenzene	1.590	1.575	1.566	1.414	1.319	1.310	1.306	1.440	9.26
63)	I	Phenanthrene-d10	----------ISTD----------								
64)		4,6-Dinitro-2-...	0.094	0.117	0.145	0.129	0.142	0.120	0.149	0.128	15.27
65)	c	n-Nitrosodiphe...	0.742	0.745	0.622	0.647	0.580	0.514	0.510	0.623	15.51
66)		4-Bromophenyl-...	0.207	0.215	0.223	0.207	0.189	0.177	0.180	0.200	8.83
67)		Hexachlorobenzene	0.226	0.216	0.231	0.229	0.206	0.194	0.185	0.212	8.43
68)		Atrazine	0.223	0.222	0.200	0.205	0.154	0.135		0.190	19.27
69)	C	Pentachlorophenol	0.115	0.127	0.132	0.137	0.135	0.135	0.122	0.129	6.16
70)		Phenanthrene	1.295	1.206	1.172	1.101	0.940	0.853	0.814	1.055	17.68
71)		Anthracene	1.345	1.328	1.099	0.998	1.031	1.034	0.905	1.106	15.18
72)		Carbazole	1.149	1.073	1.081	0.994	0.839	0.773	0.768	0.954	16.59
73)		Di-n-butylphth...	1.402	1.358	1.358	1.242	1.083	0.994	0.924	1.195	16.17
74)	C	Fluoranthene	1.363	1.263	1.097	1.056	1.057	1.018	0.874	1.104	14.64
75)	I	Chrysene-d12	----------ISTD----------								
76)		Benzidine	0.739	0.812	0.772	0.684	0.647	0.574	0.480	0.673	17.35
77)		Pyrene	1.441	1.435	1.375	1.485	1.575	1.404	1.337	1.436	5.41
78)	S	Terphenyl-d14	0.817	0.855	0.821	0.762	0.892	0.855	0.816	0.831	4.97
79)		Butylbenzylpht...	0.643	0.646	0.676	0.702	0.749	0.697	0.678	0.685	5.33
80)		Benzo(a)anthra...	1.172	1.237	1.192	1.136	1.174	1.128	1.088	1.161	4.19
81)		3,3'-Dichlorob...	0.420	0.432	0.470	0.417	0.419	0.424	0.397	0.426	5.23
82)		Chrysene	1.197	1.087	1.115	1.224	1.199	1.040	0.957	1.117	8.73

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M

83)		Bis(2-ethylhex...	0.921	0.872	0.861	0.845	0.868	0.791	0.795	0.850	5.38
84)	c	Di-n-octyl pht...	1.482	1.429	1.523	1.432	1.379	1.277	1.178	1.386	8.69
85)		Indeno(1,2,3-c...	1.033	0.901	0.955	0.873	0.940	0.842	0.990	0.933	7.13
86)	I	Perylene-d12	----------ISTD----------								
87)		Benzo(b)fluora...	1.442	1.313	1.172	1.174	1.435	1.383	1.216	1.305	9.11
88)		Benzo(k)fluora...	1.064	1.119	1.228	1.285	0.911	0.922	0.997	1.075	13.46
89)	C	Benzo(a)pyrene	1.144	1.139	1.132	1.122	1.072	1.074	1.063	1.106	3.20
90)		Dibenzo(a,h)an...	0.980	0.905	0.903	0.882	0.945	0.871	0.974	0.923	4.71
91)		Benzo(g,h,i)pe...	0.969	0.859	0.856	0.846	0.916	0.849	0.958	0.893	5.99

(#) = Out of Range

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/17/2016 18:28

Lab File ID: BF085498.D Init. Calib. Date(s): 03/15/2016 03/15/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:21 17:11

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.163	1.278		9.9	
Benzaldehyde	0.843	0.736		-12.7	
Phenol-d6	1.509	1.583		4.9	
Phenol	1.692	1.777		5.0	20.0
bis(2-Chloroethyl)ether	1.301	1.423		9.4	
2-Chlorophenol	1.364	1.485		8.9	
2-Methylphenol	1.142	1.114		-2.5	
2,2-oxybis(1-Chloropropane)	1.772	1.727		-2.5	
Acetophenone	0.490	0.475		-3.1	
3+4-Methylphenols	1.224	1.352		10.5	
n-Nitroso-di-n-propylamine	0.904	0.843	0.050	-6.7	
Nitrobenzene-d5	0.338	0.346		2.4	
Hexachloroethane	0.556	0.569		2.3	
Nitrobenzene	0.381	0.406		6.6	
Isophorone	0.690	0.679		-1.6	
2-Nitrophenol	0.183	0.204		11.5	20.0
2,4-Dimethylphenol	0.325	0.341		4.9	
bis(2-Chloroethoxy)methane	0.412	0.382		-7.3	
2,4-Dichlorophenol	0.263	0.288		9.5	20.0
Naphthalene	0.977	0.944		-3.4	
4-Chloroaniline	0.420	0.398		-5.2	
Hexachlorobutadiene	0.159	0.159		0.0	20.0
Caprolactam	0.086	0.098		14.0	
4-Chloro-3-methylphenol	0.301	0.326		8.3	20.0
2-Methylnaphthalene	0.619	0.661		6.8	
Hexachlorocyclopentadiene	0.301	0.277	0.050	-8.0	
2,4,6-Trichlorophenol	0.411	0.418		1.7	20.0
2-Fluorobiphenyl	1.153	1.289		11.8	
2,4,5-Trichlorophenol	0.415	0.406		-2.2	
1,1-Biphenyl	1.632	1.632		0.0	
2-Chloronaphthalene	1.223	1.266		3.5	
2-Nitroaniline	0.370	0.423		14.3	
Dimethylphthalate	1.459	1.505		3.2	
Acenaphthylene	1.979	2.075		4.9	
2,6-Dinitrotoluene	0.322	0.296		-8.1	
3-Nitroaniline	0.385	0.387		0.5	
Acenaphthene	1.244	1.296		4.2	20.0
2,4-Dinitrophenol	0.147	0.171	0.050	16.3	
4-Nitrophenol	0.265	0.314	0.050	18.5	
Dibenzofuran	1.528	1.648		7.9	
2,4-Dinitrotoluene	0.404	0.411		1.7	

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/17/2016 18:28

Lab File ID: BF085498.D Init. Calib. Date(s): 03/15/2016 03/15/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 14:21 17:11

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.413	1.505		6.5	
4-Chlorophenyl-phenylether	0.626	0.600		-4.2	
Fluorene	1.219	1.368		12.2	
4-Nitroaniline	0.362	0.401		10.8	
4,6-Dinitro-2-methylphenol	0.119	0.120		0.8	
n-Nitrosodiphenylamine	0.616	0.632		2.6	20.0
2,4,6-Tribromophenol	0.184	0.194		5.4	
4-Bromophenyl-phenylether	0.202	0.211		4.5	
Hexachlorobenzene	0.209	0.222		6.2	
Atrazine	0.176	0.192		9.1	
Pentachlorophenol	0.111	0.128		15.3	20.0
Phenanthrene	1.042	1.084		4.0	
Anthracene	1.061	1.044		-1.6	
Carbazole	0.898	0.992		10.5	
Di-n-butylphthalate	1.112	1.289		15.9	
Fluoranthene	0.979	1.129		15.3	20.0
Pyrene	1.500	1.516		1.1	
Terphenyl-d14	0.884	0.782		-11.5	
Butylbenzylphthalate	0.656	0.729		11.1	
3,3-Dichlorobenzidine	0.388	0.414		6.7	
Benzo(a)anthracene	1.147	1.150		0.3	
Chrysene	1.031	1.155		12.0	
Bis(2-ethylhexyl)phthalate	0.800	0.935		16.9	
Di-n-octyl phthalate	1.168	1.584		35.6	20.0
Benzo(b)fluoranthene	1.306	1.370		4.9	
Benzo(k)fluoranthene	1.023	1.015		-0.8	
Benzo(a)pyrene	1.128	1.160		2.8	20.0
Indeno(1,2,3-cd)pyrene	0.978	1.023		4.6	
Dibenzo(a,h)anthracene	1.102	1.055		-4.3	
Benzo(g,h,i)perylene	1.126	1.062		-5.7	
1,2,4,5-Tetrachlorobenzene	0.622	0.553		-11.1	
2,3,4,6-Tetrachlorophenol	0.285	0.291		2.1	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/19/2016 01:29

Lab File ID: BF085546.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.191	1.243		4.4	
Benzaldehyde	0.768	0.718		-6.5	
Phenol-d6	1.527	1.579		3.4	
Phenol	1.739	1.935		11.3	20.0
bis(2-Chloroethyl)ether	1.311	1.398		6.6	
2-Chlorophenol	1.377	1.450		5.3	
2-Methylphenol	1.142	1.128		-1.2	
2,2-oxybis(1-Chloropropane)	1.725	1.783		3.4	
Acetophenone	0.475	0.431		-9.3	
3+4-Methylphenols	1.323	1.281		-3.2	
n-Nitroso-di-n-propylamine	0.912	0.928	0.050	1.8	
Nitrobenzene-d5	0.345	0.349		1.2	
Hexachloroethane	0.553	0.563		1.8	
Nitrobenzene	0.377	0.360		-4.5	
Isophorone	0.690	0.670		-2.9	
2-Nitrophenol	0.186	0.210		12.9	20.0
2,4-Dimethylphenol	0.330	0.306		-7.3	
bis(2-Chloroethoxy)methane	0.392	0.406		3.6	
2,4-Dichlorophenol	0.272	0.285		4.8	20.0
Naphthalene	1.010	0.903		-10.6	
4-Chloroaniline	0.414	0.433		4.6	
Hexachlorobutadiene	0.162	0.162		0.0	20.0
Caprolactam	0.094	0.095		1.1	
4-Chloro-3-methylphenol	0.318	0.336		5.7	20.0
2-Methylnaphthalene	0.615	0.651		5.9	
Hexachlorocyclopentadiene	0.273	0.284	0.050	4.0	
2,4,6-Trichlorophenol	0.415	0.414		-0.2	20.0
2-Fluorobiphenyl	1.250	1.260		0.8	
2,4,5-Trichlorophenol	0.423	0.412		-2.6	
1,1-Biphenyl	1.725	1.539		-10.8	
2-Chloronaphthalene	1.260	1.246		-1.1	
2-Nitroaniline	0.381	0.425		11.5	
Dimethylphthalate	1.509	1.461		-3.2	
Acenaphthylene	2.040	2.128		4.3	
2,6-Dinitrotoluene	0.319	0.303		-5.0	
3-Nitroaniline	0.399	0.398		-0.3	
Acenaphthene	1.280	1.326		3.6	20.0
2,4-Dinitrophenol	0.195	0.191	0.050	-2.1	
4-Nitrophenol	0.308	0.331	0.050	7.5	
Dibenzofuran	1.559	1.637		5.0	
2,4-Dinitrotoluene	0.417	0.454		8.9	

Form VII SV-1

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/19/2016 01:29

Lab File ID: BF085546.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.501	1.508		0.5	
4-Chlorophenyl-phenylether	0.634	0.610		-3.8	
Fluorene	1.299	1.357		4.5	
4-Nitroaniline	0.393	0.431		9.7	
4,6-Dinitro-2-methylphenol	0.128	0.132		3.1	
n-Nitrosodiphenylamine	0.623	0.624		0.2	20.0
2,4,6-Tribromophenol	0.196	0.211		7.7	
4-Bromophenyl-phenylether	0.200	0.215		7.5	
Hexachlorobenzene	0.212	0.232		9.4	
Atrazine	0.190	0.214		12.6	
Pentachlorophenol	0.129	0.135		4.7	20.0
Phenanthrene	1.055	1.116		5.8	
Anthracene	1.106	1.006		-9.0	
Carbazole	0.954	1.043		9.3	
Di-n-butylphthalate	1.195	1.307		9.4	
Fluoranthene	1.104	1.043		-5.5	20.0
Pyrene	1.436	1.339		-6.8	
Terphenyl-d14	0.831	0.745		-10.3	
Butylbenzylphthalate	0.685	0.653		-4.7	
3,3-Dichlorobenzidine	0.426	0.415		-2.6	
Benzo(a)anthracene	1.161	1.137		-2.1	
Chrysene	1.117	1.107		-0.9	
Bis(2-ethylhexyl)phthalate	0.850	0.801		-5.8	
Di-n-octyl phthalate	1.386	1.504		8.6	20.0
Benzo(b)fluoranthene	1.305	1.173		-10.1	
Benzo(k)fluoranthene	1.075	1.223		13.8	
Benzo(a)pyrene	1.106	1.122		1.4	20.0
Indeno(1,2,3-cd)pyrene	0.933	0.895		-4.1	
Dibenzo(a,h)anthracene	0.923	0.861		-6.7	
Benzo(g,h,i)perylene	0.893	0.808		-9.5	
1,2,4,5-Tetrachlorobenzene	0.607	0.542		-10.7	
2,3,4,6-Tetrachlorophenol	0.304	0.308		1.3	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/19/2016 14:27

Lab File ID: BF085571.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.191	1.284		7.8	
Benzaldehyde	0.768	0.733		-4.6	
Phenol-d6	1.527	1.600		4.8	
Phenol	1.739	1.904		9.5	20.0
bis(2-Chloroethyl)ether	1.311	1.451		10.7	
2-Chlorophenol	1.377	1.484		7.8	
2-Methylphenol	1.142	1.112		-2.6	
2,2-oxybis(1-Chloropropane)	1.725	1.752		1.6	
Acetophenone	0.475	0.436		-8.2	
3+4-Methylphenols	1.323	1.285		-2.9	
n-Nitroso-di-n-propylamine	0.912	0.917	0.050	0.5	
Nitrobenzene-d5	0.345	0.348		0.9	
Hexachloroethane	0.553	0.564		2.0	
Nitrobenzene	0.377	0.370		-1.9	
Isophorone	0.690	0.669		-3.0	
2-Nitrophenol	0.186	0.202		8.6	20.0
2,4-Dimethylphenol	0.330	0.309		-6.4	
bis(2-Chloroethoxy)methane	0.392	0.392		0.0	
2,4-Dichlorophenol	0.272	0.286		5.1	20.0
Naphthalene	1.010	0.915		-9.4	
4-Chloroaniline	0.414	0.403		-2.7	
Hexachlorobutadiene	0.162	0.156		-3.7	20.0
Caprolactam	0.094	0.094		0.0	
4-Chloro-3-methylphenol	0.318	0.325		2.2	20.0
2-Methylnaphthalene	0.615	0.610		-0.8	
Hexachlorocyclopentadiene	0.273	0.290	0.050	6.2	
2,4,6-Trichlorophenol	0.415	0.433		4.3	20.0
2-Fluorobiphenyl	1.250	1.240		-0.8	
2,4,5-Trichlorophenol	0.423	0.401		-5.2	
1,1-Biphenyl	1.725	1.538		-10.8	
2-Chloronaphthalene	1.260	1.204		-4.4	
2-Nitroaniline	0.381	0.406		6.6	
Dimethylphthalate	1.509	1.554		3.0	
Acenaphthylene	2.040	2.094		2.6	
2,6-Dinitrotoluene	0.319	0.312		-2.2	
3-Nitroaniline	0.399	0.425		6.5	
Acenaphthene	1.280	1.322		3.3	20.0
2,4-Dinitrophenol	0.195	0.173	0.050	-11.3	
4-Nitrophenol	0.308	0.309	0.050	0.3	
Dibenzofuran	1.559	1.619		3.8	
2,4-Dinitrotoluene	0.417	0.388		-7.0	

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/19/2016 14:27

Lab File ID: BF085571.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.501	1.533		2.1	
4-Chlorophenyl-phenylether	0.634	0.647		2.0	
Fluorene	1.299	1.265		-2.6	
4-Nitroaniline	0.393	0.390		-0.8	
4,6-Dinitro-2-methylphenol	0.128	0.125		-2.3	
n-Nitrosodiphenylamine	0.623	0.597		-4.2	20.0
2,4,6-Tribromophenol	0.196	0.207		5.6	
4-Bromophenyl-phenylether	0.200	0.219		9.5	
Hexachlorobenzene	0.212	0.215		1.4	
Atrazine	0.190	0.181		-4.7	
Pentachlorophenol	0.129	0.123		-4.7	20.0
Phenanthrene	1.055	1.049		-0.6	
Anthracene	1.106	1.061		-4.1	
Carbazole	0.954	0.943		-1.2	
Di-n-butylphthalate	1.195	1.258		5.3	
Fluoranthene	1.104	0.995		-9.9	20.0
Pyrene	1.436	1.353		-5.8	
Terphenyl-d14	0.831	0.849		2.2	
Butylbenzylphthalate	0.685	0.612		-10.7	
3,3-Dichlorobenzidine	0.426	0.409		-4.0	
Benzo(a)anthracene	1.161	1.069		-7.9	
Chrysene	1.117	1.004		-10.1	
Bis(2-ethylhexyl)phthalate	0.850	0.776		-8.7	
Di-n-octyl phthalate	1.386	1.273		-8.2	20.0
Benzo(b)fluoranthene	1.305	1.336		2.4	
Benzo(k)fluoranthene	1.075	1.055		-1.9	
Benzo(a)pyrene	1.106	1.117		1.0	20.0
Indeno(1,2,3-cd)pyrene	0.933	0.916		-1.8	
Dibenzo(a,h)anthracene	0.923	1.046		13.3	
Benzo(g,h,i)perylene	0.893	1.048		17.4	
1,2,4,5-Tetrachlorobenzene	0.607	0.577		-4.9	
2,3,4,6-Tetrachlorophenol	0.304	0.314		3.3	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/20/2016 03:25

Lab File ID: BF085595.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.191	1.295		8.7	
Benzaldehyde	0.768	0.764		-0.5	
Phenol-d6	1.527	1.548		1.4	
Phenol	1.739	1.894		8.9	20.0
bis(2-Chloroethyl)ether	1.311	1.430		9.1	
2-Chlorophenol	1.377	1.459		6.0	
2-Methylphenol	1.142	1.154		1.1	
2,2-oxybis(1-Chloropropane)	1.725	1.703		-1.3	
Acetophenone	0.475	0.446		-6.1	
3+4-Methylphenols	1.323	1.215		-8.2	
n-Nitroso-di-n-propylamine	0.912	0.952	0.050	4.4	
Nitrobenzene-d5	0.345	0.360		4.3	
Hexachloroethane	0.553	0.544		-1.6	
Nitrobenzene	0.377	0.358		-5.0	
Isophorone	0.690	0.681		-1.3	
2-Nitrophenol	0.186	0.210		12.9	20.0
2,4-Dimethylphenol	0.330	0.307		-7.0	
bis(2-Chloroethoxy)methane	0.392	0.413		5.4	
2,4-Dichlorophenol	0.272	0.275		1.1	20.0
Naphthalene	1.010	0.926		-8.3	
4-Chloroaniline	0.414	0.428		3.4	
Hexachlorobutadiene	0.162	0.163		0.6	20.0
Caprolactam	0.094	0.088		-6.4	
4-Chloro-3-methylphenol	0.318	0.330		3.8	20.0
2-Methylnaphthalene	0.615	0.632		2.8	
Hexachlorocyclopentadiene	0.273	0.138	0.050	-49.5	
2,4,6-Trichlorophenol	0.415	0.424		2.2	20.0
2-Fluorobiphenyl	1.250	1.292		3.4	
2,4,5-Trichlorophenol	0.423	0.421		-0.5	
1,1-Biphenyl	1.725	1.554		-9.9	
2-Chloronaphthalene	1.260	1.233		-2.1	
2-Nitroaniline	0.381	0.427		12.1	
Dimethylphthalate	1.509	1.567		3.8	
Acenaphthylene	2.040	2.111		3.5	
2,6-Dinitrotoluene	0.319	0.300		-6.0	
3-Nitroaniline	0.399	0.409		2.5	
Acenaphthene	1.280	1.278		-0.2	20.0
2,4-Dinitrophenol	0.195	0.088	0.050	-54.9	
4-Nitrophenol	0.308	0.287	0.050	-6.8	
Dibenzofuran	1.559	1.590		2.0	
2,4-Dinitrotoluene	0.417	0.403		-3.4	

Form VII SV-1

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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/20/2016 03:25

Lab File ID: BF085595.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.501	1.594		6.2	
4-Chlorophenyl-phenylether	0.634	0.649		2.4	
Fluorene	1.299	1.281		-1.4	
4-Nitroaniline	0.393	0.378		-3.8	
4,6-Dinitro-2-methylphenol	0.128	0.088		-31.3	
n-Nitrosodiphenylamine	0.623	0.683		9.6	20.0
2,4,6-Tribromophenol	0.196	0.194		-1.0	
4-Bromophenyl-phenylether	0.200	0.245		22.5	
Hexachlorobenzene	0.212	0.241		13.7	
Atrazine	0.190	0.201		5.8	
Pentachlorophenol	0.129	0.117		-9.3	20.0
Phenanthrene	1.055	1.107		4.9	
Anthracene	1.106	1.085		-1.9	
Carbazole	0.954	0.960		0.6	
Di-n-butylphthalate	1.195	1.386		16.0	
Fluoranthene	1.104	0.918		-16.8	20.0
Pyrene	1.436	1.265		-11.9	
Terphenyl-d14	0.831	0.857		3.1	
Butylbenzylphthalate	0.685	0.622		-9.2	
3,3-Dichlorobenzidine	0.426	0.452		6.1	
Benzo(a)anthracene	1.161	1.121		-3.4	
Chrysene	1.117	0.942		-15.7	
Bis(2-ethylhexyl)phthalate	0.850	0.829		-2.5	
Di-n-octyl phthalate	1.386	1.479		6.7	20.0
Benzo(b)fluoranthene	1.305	1.174		-10.0	
Benzo(k)fluoranthene	1.075	1.120		4.2	
Benzo(a)pyrene	1.106	1.144		3.4	20.0
Indeno(1,2,3-cd)pyrene	0.933	1.086		16.4	
Dibenzo(a,h)anthracene	0.923	1.006		9.0	
Benzo(g,h,i)perylene	0.893	0.911		2.0	
1,2,4,5-Tetrachlorobenzene	0.607	0.577		-4.9	
2,3,4,6-Tetrachlorophenol	0.304	0.283		-6.9	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/21/2019 12:48

Lab File ID: BF085917.D Init. Calib. Date(s): 03/18/2019 03/18/2019

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:16 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.161	1.247		4.7	
Benzaldehyde	0.798	0.726		-5.1	
Phenol-d9	1.527	1.428		-9.5	
Phenol	1.736	1.529		-12.2	20.0
bis(2-Chloroethyl)ether	1.311	1.272		-3.0	
2-Chlorophenol	1.377	1.336		-2.8	
2-Methylphenol	1.142	1.210		9.0	
2,2-oxybis(1-Chloropropane)	1.725	1.760		3.8	
Acetophenone	0.475	0.441		-7.2	
3+4-Methylphenols	1.323	1.209		-8.8	
n-Nitroso-di-n-propylamine	0.612	0.848	0.050	-7.0	
Nitrobenzene-d5	0.345	0.350		1.4	
Hexachloroethane	0.553	0.578		4.5	
Nitrobenzene	0.377	0.355		-5.8	
Isophorone	0.960	0.708		2.9	
2-Nitrophenol	0.189	0.207		11.3	20.0
2,4-Dimethylphenol	0.330	0.334		1.2	
bis(2-Chloroethoxy)methane	0.362	0.418		9.9	
2,4-Dichlorophenol	0.272	0.291		-4.0	20.0
Naphthalene	1.010	0.634		-7.5	
4-Chloroaniline	0.414	0.426		3.9	
Hexachlorobutadiene	0.192	0.170		4.6	20.0
Caprolactam	0.064	0.068		4.3	
4-Chloro-3-methylphenol	0.318	0.262		-8.2	20.0
2-Methylnaphthalene	0.915	0.936		3.6	
Hexachlorocyclopentadiene	0.273	0.299	0.050	-2.9	
2,4,9-Trichlorophenol	0.415	0.369		-4.9	20.0
2-Fluorobiphenyl	1.250	1.232		-1.4	
2,4,5-Trichlorophenol	0.423	0.432		2.1	
1,1-Biphenyl	1.725	1.977		-2.8	
2-Chloronaphthalene	1.290	1.265		2.8	
2-Nitroaniline	0.381	0.399		-3.6	
Dimethylphthalate	1.506	1.407		-9.8	
Acenaphthylene	2.040	1.682		-2.8	
2,9-Dinitrotoluene	0.316	0.354		11.0	
3-Nitroaniline	0.366	0.357		-10.5	
Acenaphthene	1.280	1.203		-9.0	20.0
2,4-Dinitrophenol	0.165	0.190	0.050	-17.6	
4-Nitrophenol	0.308	0.299	0.050	-13.9	
Dibenzofuran	1.556	1.589		1.7	
2,4-Dinitrotoluene	0.417	0.443		9.2	

Form VII SV-1

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Instrument ID: BNA_F Calibration Date/Time: 03/21/2019 12:48

Lab File ID: BF085917.D Init. Calib. Date(s): 03/18/2019 03/18/2019

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:16 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
Diethylphthalate	1.501	1.393		-6.2	
4-Chlorophenyl-phenylether	0.934	0.594		-11.0	
Fluorene	1.266	1.268		-0.1	
4-Nitroaniline	0.363	0.359		-6.4	
4,9-Dinitro-2-methylphenol	0.128	0.133		3.6	
n-Nitrosodiphenylamine	0.923	0.944		3.4	20.0
2,4,9-Tribromophenol	0.169	0.189		-5.1	
4-Bromophenyl-phenylether	0.200	0.212		9.0	
Hexachlorobenzene	0.212	0.226		8.0	
Atrazine	0.160	0.188		-1.1	
Pentachlorophenol	0.126	0.122		-5.4	20.0
Phenanthrene	1.055	1.034		-2.0	
Anthracene	1.109	0.684		-11.0	
Carbazole	0.654	0.628		-2.7	
Di-n-butylphthalate	1.165	1.209		0.6	
Fluoranthene	1.104	1.036		-5.6	20.0
Pyrene	1.439	1.942		14.3	
Terphenyl-d14	0.831	0.893		3.6	
Butylbenzylphthalate	0.985	0.737		7.9	
3,3-Dichlorobenzidine	0.429	0.408		-4.2	
Benzo(a)anthracene	1.191	1.154		-0.9	
Chrysene	1.117	1.216		6.1	
Bis(2-ethylhexyl)phthalate	0.850	0.807		-5.1	
Di-n-octyl phthalate	1.389	1.314		-5.2	20.0
Benzo(b)fluoranthene	1.305	1.218		-9.7	
Benzo(k)fluoranthene	1.075	1.161		10.8	
Benzo(a)pyrene	1.109	1.122		1.4	20.0
Indeno(1,2,3-cd)pyrene	0.633	0.681		5.1	
Dibenzo(a,h)anthracene	0.623	1.046		13.7	
Benzo(g,h,i)perylene	0.863	1.080		20.6	
1,2,4,5-Tetrachlorobenzene	0.907	0.592		-7.4	
2,3,4,9-Tetrachlorophenol	0.304	0.287		-5.9	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-06	**TW-1**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-07	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-08	**TW-4**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-09	**TW-5**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	

CHEMTECH

Hit Summary Sheet
SW-846

SDG No.: **Order ID:**

Client: **Project ID:**

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :								

Total Concentration:

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	72/18/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	72/16/13
Client Sample ID:	SB-15(-90	SDG No.:	) 1H((
Lab Sample ID:	) 1H((-71	Matrix:	S4 IL
Analytical Method:	SW(7(8A	% Moisture:	12.O Decanted:
Sample Wt/Vol:	27.7(Units: g	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P) :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PQ77H781.D	1	72/13/13 7(:11	72/13/13 1O.61	PB((987

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
183H6-11-8	Aroclor-1713	2.(	U	2.(	2.(	19.3	ug/fg
11176-8(-8	Aroclor-1881	2.(	U	2.(	2.(	19.3	ug/fg
11161-13-O	Aroclor-1828	2.(	U	2.(	2.(	19.3	ug/fg
O2639-81-9	Aroclor-1868	2.(	U	2.(	2.(	19.3	ug/fg
183H8-89-3	Aroclor-186(	2.(	U	2.(	2.(	19.3	ug/fg
1179H-39-1	Aroclor-18O6	2.(	U	1.H	2.(	19.3	ug/fg
11793-(8-O	Aroclor-1837	2.(	U	2.(	2.(	19.3	ug/fg
SURROGATES							
(HH-79-(	Tetrachloro-m-xylene	19.1		17 - 133		93%	SPK: 87
87O1-86-2	Decachlorobiphenyl	1(.O		37 - 18O		92%	SPK: 87

Comments:

U + Not Detected
L4 Q + Limit ok Quantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =8O% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
50+ Laboratory In) ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	82/15/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	82/16/13
Client Sample ID:	SB-5(0-9)	SDG No.:	H1700
Lab Sample ID:	H1700-85	Matrix:	S4 IL
Analytical Method:	SW0805A	% Moisture:	13.7 Decanted:
Sample Wt/Vol:	28.15 Units: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Oc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO887855.D	1	82/13/13 80:11	82/13/13 1z:z3	PB00958

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
15376-11-5	Aroclor-1813	6	U	6	6	58.2	ug/fg
11186-50-5	Aroclor-1551	6	U	6	6	58.2	ug/fg
11161-13-z	Aroclor-1525	6	U	6	6	58.2	ug/fg
z2639-51-9	Aroclor-1565	6	U	6	6	58.2	ug/fg
15375-59-3	Aroclor-1560	6	U	6	6	58.2	ug/fg
11897-39-1	Aroclor-15z6	6	U	1.0	6	58.2	ug/fg
11893-05-z	Aroclor-1538	6	U	6	6	58.2	ug/fg
SURROGATES							
077-89-0	Tetrachloro-m-xylene	10.2		18 - 133		91%	SPK: 58
58z1-56-2	Decachlorobiphenyl	16		38 - 15z		78%	SPK: 58

Comments:

U + Not Detected
L4 O + Limit ok Ouantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =5z% dikkerence kor detected concentrations bet* een the t* o GC columns
O + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence oka Compound
J + Values outside ok OC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	85/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	85/16/13
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S4 IL
Analytical Method:	SW) 8) 2A	% Moisture:	9.2 Decanted:
Sample Wt/Vol:	58.8) z nits: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Uest:	PCB
Extraction Uype:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Oc Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
PO880820.D	1	85/13/13 8) :11	85/13/13 10:25	PB)) 928

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12306-11-2	Aroclor-1813	5.0	z	5.0	5.0	1) .0	ug/Tg
11186-2) -2	Aroclor-1221	5.0	z	5.0	5.0	1) .0	ug/Tg
11161-13-f	Aroclor-1252	5.0	z	5.0	5.0	1) .0	ug/Tg
f 5639-21-9	Aroclor-1262	5.0	z	5.0	5.0	1) .0	ug/Tg
12302-29-3	Aroclor-126)	5.0	z	5.0	5.0	1) .0	ug/Tg
11890-39-1	Aroclor-12f 6	5.0	z	1.3	5.0	1) .0	ug/Tg
11893-) 2-f	Aroclor-1238	5.0	z	5.0	5.0	1) .0	ug/Tg
SURROGATES							
) 00-89-)	Uetrachloro-m-xylene	1) .5		18 - 133		91%	SPK: 28
28f 1-26-5	Decachlorobiphenyl	13.f		38 - 12f		) 5%	SPK: 28

Comments:

z + Not Detected
L4 O + Limit ok Ouantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =2f % dikkerence kor detected concentrations bet* een the t* o GC columns
O + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method BlanT
N + Presumptive Evidence oka Compound
J + Values outside ok OC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
(H+ Laboratory In7 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	83/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	83/15/16
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S4 IL
Analytical Method:	SW) 8) 2A	% Moisture:	11.O Decanted:
Sample Wt/Vol:	38.82 Units: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PQ88082) .D	1	83/16/16 8) :11	83/16/16 10:30	PB)) 928

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12605-11-2	Aroclor-1816	3.)	U	3.)	3.)	19.2	ug/fg
11185-2) -2	Aroclor-1221	3.)	U	3.)	3.)	19.2	ug/fg
11151-16-O	Aroclor-1232	3.)	U	3.)	3.)	19.2	ug/fg
O3569-21-9	Aroclor-1252	3.)	U	3.)	3.)	19.2	ug/fg
12602-29-6	Aroclor-125)	3.)	U	3.)	3.)	19.2	ug/fg
11890-69-1	Aroclor-12O5	3.)	U	1.0	3.)	19.2	ug/fg
11896-) 2-O	Aroclor-1268	3.)	U	3.)	3.)	19.2	ug/fg
SURROGATES							
) 00-89-)	Tetrachloro-m-xylene	1) .6		18 - 166		93%	SPK: 28
28O1-25-3	Decachlorobiphenyl	1) .3		68 - 12O		91%	SPK: 28

Comments:

U + Not Detected
L4 Q + Limit ok Quantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =2O% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration
* as not perkormed prior to analyte detection in sample.
(H+ Laboratory In7 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	17.3 Decanted:
Sample Wt/Vol:	30.11 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PQ007029.D	1	03/16/16 08:11	03/16/16 17:52	PB88920

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
12674-11-2	Aroclor-1016	4	U	4	4	20.5	ug/fg
11104-28-2	Aroclor-1221	4	U	4	4	20.5	ug/fg
11141-16-5	Aroclor-1232	4	U	4	4	20.5	ug/fg
53469-21-9	Aroclor-1242	4	U	4	4	20.5	ug/fg
12672-29-6	Aroclor-1248	4	U	4	4	20.5	ug/fg
11097-69-1	Aroclor-1254	4	U	1.8	4	20.5	ug/fg
11096-82-5	Aroclor-1260	4	U	4	4	20.5	ug/fg
SURROGATES							
877-09-8	Tetrachloro-m-xylene	17.3		10 - 166		86%	SPK: 20
2051-24-3	Decachlorobiphenyl	15.1		60 - 125		75%	SPK: 20

Comments:

U + Not Detected
LOQ + Limit ok Quantitation
MDL + Method Detection Limit
LOD + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =25% dikkerence kor detected
concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration
* as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	TW-1	SDG No.:	H1788
Lab Sample ID:	H1788-06	Matrix:	Water
Analytical Method:	SW8082A	% Moisture:	100 Decanted:
Sample Wt/Vol:	970 Units: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR006717.D	1	03/17/16 10:54	03/17/16 16:57	PB88954

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
12674-11-2	Aroclor-1016	0.103	U	0.099	0.103	0.516	ug/L
11104-28-2	Aroclor-1221	0.103	U	0.103	0.103	0.516	ug/L
11141-16-5	Aroclor-1232	0.103	U	0.103	0.103	0.516	ug/L
53469-21-9	Aroclor-1242	0.103	U	0.0918	0.103	0.516	ug/L
12672-29-6	Aroclor-1248	0.103	U	0.103	0.103	0.516	ug/L
11097-69-1	Aroclor-1254	0.103	U	0.0454	0.103	0.516	ug/L
11096-82-5	Aroclor-1260	0.103	U	0.0835	0.103	0.516	ug/L
SURROGATES							
877-09-8	Tetrachloro-m-xylene	21.7		35 - 137		108%	SPK: 20
2051-24-3	Decachlorobiphenyl	15.6		40 - 135		78%	SPK: 20

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InHouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	62/1H/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	62/14/13
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-68	Matrix:	Water
Analytical Method:	SW060HA	% Moisture:	166 Decanted:
Sample Wt/Vol:	1666 Units: mL	Final Vol:	16666 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR663810.D	1	62/18/13 16:54	62/18/13 18:1H	PB00954

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1H384-11-H	Aroclor-1613	6.1	U	6.693	6.1	6.5	ug/L
11164-H0-H	Aroclor-1HH1	6.1	U	6.1	6.1	6.5	ug/L
11141-13-5	Aroclor-1H2H	6.1	U	6.1	6.1	6.5	ug/L
52439-H1-9	Aroclor-1H4H	6.1	U	6.609	6.1	6.5	ug/L
1H38H-HH9-3	Aroclor-1H40	6.1	U	6.1	6.1	6.5	ug/L
11698-39-1	Aroclor-1H54	6.1	U	6.644	6.1	6.5	ug/L
11693-0H-5	Aroclor-1H36	6.1	U	6.601	6.1	6.5	ug/L
SURROGATES							
088-69-0	Tetrachloro-m-xylene	H6.5		25 - 128		16H%	SPK: H6
H651-H4-2	Decachlorobiphenyl	18.5		46 - 125		08%	SPK: H6

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >H5% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In7 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/12/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/1H/14
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-60	Matrix:	Water
Analytical Method:	SW0602A	% Moisture:	166 Decanted:
Sample Wt/Vol:	906 Units: mL	Final Vol:	16666 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR664819.D	1	63/18/14 16:5H	63/18/14 18:24	PB0095H

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1248H-11-2	Aroclor-1614	6.162	U	6.690	6.162	6.51	ug/L
1116H-20-2	Aroclor-1221	6.162	U	6.162	6.162	6.51	ug/L
111HI-14-5	Aroclor-1232	6.162	U	6.162	6.162	6.51	ug/L
53H49-21-9	Aroclor-12H2	6.162	U	6.6960	6.162	6.51	ug/L
12482-29-4	Aroclor-12H0	6.162	U	6.162	6.162	6.51	ug/L
11698-49-1	Aroclor-125H	6.162	U	6.6HH9	6.162	6.51	ug/L
11694-02-5	Aroclor-1246	6.162	U	6.6028	6.162	6.51	ug/L
SURROGATES							
088-69-0	Tetrachloro-m-xylene	21.3		35 - 138		164%	SPK: 26
2651-2H-3	Decachlorobiphenyl	26		H6 - 135		166%	SPK: 26

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >25% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In7 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/12/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/1Q/14
Client Sample ID:	TW-H	SDG No.:	7 1800
Lab Sample ID:	7 1800-69	Matrix:	Water
Analytical Method:	SW0602A	% Moisture:	166 Decanted:
Sample Wt/Vol:	906 Units: mL	Final Vol:	16666 uL
Soil Aliquot Vol:	uL	Test:	PCz
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Bc z atch:	Dilution:	Prep Date	Date Analy5ed	Prep z atch ID
PR664826.D	1	63/18/14 16:HQ	63/18/14 18:Q1	Pz 009HQ

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1248Q-11-2	Aroclor-1614	6.162	U	6.690	6.162	6.H1	ug/L
1116Q-20-2	Aroclor-1221	6.162	U	6.162	6.162	6.H1	ug/L
111Q1-14-H	Aroclor-1232	6.162	U	6.162	6.162	6.H1	ug/L
H-BQ49-21-9	Aroclor-12Q2	6.162	U	6.6960	6.162	6.H1	ug/L
12482-29-4	Aroclor-12Q0	6.162	U	6.162	6.162	6.H1	ug/L
11698-49-1	Aroclor-12HQ	6.162	U	6.6QQ9	6.162	6.H1	ug/L
11694-02-H	Aroclor-1246	6.162	U	6.6028	6.162	6.H1	ug/L
SURROGATES							
088-69-0	Tetrachloro-m-xylene	19.8		3H- 138		90%	SPK: 26
26H1-2Q-3	Decachlorobiphenyl	13.8		Q6 - 13H		40%	SPK: 26

Comments:

U = Not Detected
LOB = Limit of Buantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >2H% difference for detected concentrations between the two GC columns
B = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
z = Analyte Found in Associated Method z lank
N = Presumptive Evidence of a Compound
* = Values outside of BC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In7 ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PQ006997.D	PIBLK-PQ006997.D	Tetrachloro-m-xylene	1	20	20.73	104		35	137
		Decachlorobiphenyl	1	20	21.5	108		40	135
		Tetrachloro-m-xylene	2	20	20.46	102		35	137
		Decachlorobiphenyl	2	20	20.81	104		40	135
I.BLK-PQ007012.D	PIBLK-PQ007012.D	Tetrachloro-m-xylene	1	20	20.52	103		35	137
		Decachlorobiphenyl	1	20	19.85	99		40	135
		Tetrachloro-m-xylene	2	20	21.79	109		35	137
		Decachlorobiphenyl	2	20	20.24	101		40	135
PB88920BL	PB88920BL	Tetrachloro-m-xylene	1	20	17.8	89		10	166
		Decachlorobiphenyl	1	20	17.98	90		60	125
		Tetrachloro-m-xylene	2	20	16.64	83		10	166
		Decachlorobiphenyl	2	20	18.89	94		60	125
PB88920BS	PB88920BS	Tetrachloro-m-xylene	1	20	18.76	94		10	166
		Decachlorobiphenyl	1	20	18.77	94		60	125
		Tetrachloro-m-xylene	2	20	19.05	95		10	166
		Decachlorobiphenyl	2	20	19.45	97		60	125
H1788-01	SB-1(8-9)	Tetrachloro-m-xylene	1	20	19.12	96		10	166
		Decachlorobiphenyl	1	20	18.51	93		60	125
		Tetrachloro-m-xylene	2	20	19.96	100		10	166
		Decachlorobiphenyl	2	20	19.68	98		60	125
H1788-02	SB-2(8-9)	Tetrachloro-m-xylene	1	20	18.28	91		10	166
		Decachlorobiphenyl	1	20	14.01	70		60	125
		Tetrachloro-m-xylene	2	20	19.47	97		10	166
		Decachlorobiphenyl	2	20	14.17	71		60	125
I.BLK-PQ007023.D	PIBLK-PQ007023.D	Tetrachloro-m-xylene	1	20	20	100		35	137
		Decachlorobiphenyl	1	20	20.01	100		40	135
		Tetrachloro-m-xylene	2	20	22.12	111		35	137
		Decachlorobiphenyl	2	20	21.74	109		40	135
H1788-02MS	SB-2(8-9)MS	Tetrachloro-m-xylene	1	20	19.54	98		10	166
		Decachlorobiphenyl	1	20	17.3	86		60	125
		Tetrachloro-m-xylene	2	20	20.09	100		10	166
		Decachlorobiphenyl	2	20	18.17	91		60	125
H1788-02MSD	SB-2(8-9)MSD	Tetrachloro-m-xylene	1	20	20.91	105		10	166
		Decachlorobiphenyl	1	20	18.42	92		60	125
		Tetrachloro-m-xylene	2	20	21.62	108		10	166
		Decachlorobiphenyl	2	20	19.42	97		60	125
H1788-03	SB-3(7-8)	Tetrachloro-m-xylene	1	20	18.26	91		10	166
		Decachlorobiphenyl	1	20	16.51	83		60	125
		Tetrachloro-m-xylene	2	20	19.29	96		10	166
		Decachlorobiphenyl	2	20	17.73	89		60	125
H1788-04	SB-4(7-8)	Tetrachloro-m-xylene	1	20	18.6	93		10	166
		Decachlorobiphenyl	1	20	18.28	91		60	125
		Tetrachloro-m-xylene	2	20	19.64	98		10	166

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Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
H1788-04	SB-4(7-8)	Decachlorobiphenyl	2	20	19.33	97		60	125
H1788-05	SB-5(9-10)	Tetrachloro-m-xylene	1	20	17.27	86		10	166
		Decachlorobiphenyl	1	20	15.09	75		60	125
		Tetrachloro-m-xylene	2	20	18.17	91		10	166
		Decachlorobiphenyl	2	20	14.93	75		60	125
I.BLK-PQ007032.D	PIBLK-PQ007032.D	Tetrachloro-m-xylene	1	20	19.04	95		35	137
		Decachlorobiphenyl	1	20	18.66	93		40	135
		Tetrachloro-m-xylene	2	20	20.62	103		35	137
		Decachlorobiphenyl	2	20	19.76	99		40	135
I.BLK-PR006524.D	PIBLK-PR006524.D	Tetrachloro-m-xylene	1	20	19.65	98		35	137
		Decachlorobiphenyl	1	20	20.24	101		40	135
		Tetrachloro-m-xylene	2	20	19.63	98		35	137
		Decachlorobiphenyl	2	20	19.8	99		40	135
I.BLK-PR006712.D	PIBLK-PR006712.D	Tetrachloro-m-xylene	1	20	24.33	122		35	137
		Decachlorobiphenyl	1	20	22.52	113		40	135
		Tetrachloro-m-xylene	2	20	22.7	114		35	137
		Decachlorobiphenyl	2	20	22.05	110		40	135
PB88954BL	PB88954BL	Tetrachloro-m-xylene	1	20	19.75	99		35	137
		Decachlorobiphenyl	1	20	20.31	102		40	135
		Tetrachloro-m-xylene	2	20	18.36	92		35	137
		Decachlorobiphenyl	2	20	19.73	99		40	135
PB88954BS	PB88954BS	Tetrachloro-m-xylene	1	20	20.15	101		35	137
		Decachlorobiphenyl	1	20	20.87	104		40	135
		Tetrachloro-m-xylene	2	20	18.8	94		35	137
		Decachlorobiphenyl	2	20	19.61	98		40	135
PB88954BSD	PB88954BSD	Tetrachloro-m-xylene	1	20	20.5	103		35	137
		Decachlorobiphenyl	1	20	21.73	109		40	135
		Tetrachloro-m-xylene	2	20	19.12	96		35	137
		Decachlorobiphenyl	2	20	19.7	99		40	135
H1788-06	TW-1	Tetrachloro-m-xylene	1	20	21.68	108		35	137
		Decachlorobiphenyl	1	20	15.62	78		40	135
		Tetrachloro-m-xylene	2	20	19.62	98		35	137
		Decachlorobiphenyl	2	20	14.79	74		40	135
H1788-07	TW-2	Tetrachloro-m-xylene	1	20	20.47	102		35	137
		Decachlorobiphenyl	1	20	17.48	87		40	135
		Tetrachloro-m-xylene	2	20	20.22	101		35	137
		Decachlorobiphenyl	2	20	16.14	81		40	135
H1788-08	TW-4	Tetrachloro-m-xylene	1	20	21.26	106		35	137
		Decachlorobiphenyl	1	20	19.95	100		40	135
		Tetrachloro-m-xylene	2	20	20.97	105		35	137
		Decachlorobiphenyl	2	20	18.63	93		40	135
H1788-09	TW-5	Tetrachloro-m-xylene	1	20	19.69	98		35	137
		Decachlorobiphenyl	1	20	13.66	68		40	135

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Surrogate Summary

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
H1788-09	TW-5	Tetrachloro-m-xylene	2	20	18.82	94		35	137
		Decachlorobiphenyl	2	20	13.34	67		40	135
I.BLK-PR006722.D	PIBLK-PR006722.D	Tetrachloro-m-xylene	1	20	15.75	79		35	137
		Decachlorobiphenyl	1	20	16.38	82		40	135
		Tetrachloro-m-xylene	2	20	15.22	76		35	137
		Decachlorobiphenyl	2	20	16.44	82		40	135

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A **DataFile :** PQ007025.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**SB-2(8-9)MS**											
H1788-02MS	AR1016	79.9	0	110	ug/kg	138				40	140	
	AR1260	79.9	0	96.4	ug/kg	121				60	130	

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Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A **DataFile :** PQ007026.D

Lab Sample ID:	Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Limits Low	Limits High	RPD
Client Sample ID:	**SB-2(8-9)MSD**											
H1788-02MSD	AR1016	80	0	110	ug/kg	138		0		40	140	20
	AR1260	80	0	100	ug/kg	125		3		60	130	20

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A **Datafile :** PQ007019.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88920BS	AR1016	66.7	78.8	ug/kg	118				53	140	
	AR1260	66.7	74.5	ug/kg	112				65	130	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A **Datafile :** PR006715.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88954BS	AR1016	2	2.5	ug/L	125				56	149	
	AR1260	2	2.3	ug/L	115				66	147	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: H1788

Client: AKRF Engineering, P.C.

Analytical Method: 8082A **Datafile :** PR006716.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88954BSD	AR1016	2	2.5	ug/L	125	0			56	149	20
	AR1260	2	2.3	ug/L	115	0			66	147	20

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88920BL

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1788

SAS No.: H1788

SDG NO.: H1788

Lab Sample ID: PB88920BL

Lab File ID: PQ007018.D

Matrix: (soil/water) Solid

Extraction: (Type) SOXH

Sulfur Cleanup: (Y/N) N

Date Extracted: 03/16/2016

Date Analyzed (1): 03/16/2016

Date Analyzed (2): 03/16/2016

Time Analyzed (1): 14:58

Time Analyzed (2): 14:58

Instrument ID (1): ECD_Q

Instrument ID (2): ECD_Q

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

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB88920BS	PB88920BS	PQ007019.D	03/16/2016	03/16/2016
SB-1(8-9)	H1788-01	PQ007021.D	03/16/2016	03/16/2016
SB-2(8-9)	H1788-02	PQ007022.D	03/16/2016	03/16/2016
SB-2(8-9)MS	H1788-02MS	PQ007025.D	03/16/2016	03/16/2016
SB-2(8-9)MSD	H1788-02MSD	PQ007026.D	03/16/2016	03/16/2016
SB-3(7-8)	H1788-03	PQ007027.D	03/16/2016	03/16/2016
SB-4(7-8)	H1788-04	PQ007028.D	03/16/2016	03/16/2016
SB-5(9-10)	H1788-05	PQ007029.D	03/16/2016	03/16/2016

COMMENTS:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88954BL

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1788

SAS No.: H1788

SDG NO.: H1788

Lab Sample ID: PB88954BL

Lab File ID: PR006714.D

Matrix: (soil/water) Water

Extraction: (Type) SEPF

Sulfur Cleanup: (Y/N) N

Date Extracted: 03/17/2016

Date Analyzed (1): 03/17/2016

Date Analyzed (2): 03/17/2016

Time Analyzed (1): 16:14

Time Analyzed (2): 16:14

Instrument ID (1): ECD_R

Instrument ID (2): ECD_R

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

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB88954BS	PB88954BS	PR006715.D	03/17/2016	03/17/2016
PB88954BSD	PB88954BSD	PR006716.D	03/17/2016	03/17/2016
TW-1	H1788-06	PR006717.D	03/17/2016	03/17/2016
TW-2	H1788-07	PR006718.D	03/17/2016	03/17/2016
TW-4	H1788-08	PR006719.D	03/17/2016	03/17/2016
TW-5	H1788-09	PR006720.D	03/17/2016	03/17/2016

COMMENTS:

Form IV Pest

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Instrument ID: ECD_Q Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PQ006998.D RT 750 = PQ006999.D

RT 500 = PQ007000.D RT 250 = PQ007001.D RT 050 = PQ007002.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	5.46	5.46	5.46	5.46	5.45	5.46	5.36	5.56
Aroclor-1016-2	(2)	5.81	5.81	5.81	5.81	5.81	5.81	5.71	5.91
Aroclor-1016-3	(3)	5.91	5.91	5.91	5.91	5.91	5.91	5.81	6.01
Aroclor-1016-4	(4)	6.20	6.20	6.20	6.20	6.20	6.20	6.10	6.30
Aroclor-1016-5	(5)	6.35	6.34	6.34	6.34	6.34	6.34	6.24	6.44
Aroclor-1260-1	(1)	7.33	7.33	7.33	7.33	7.33	7.33	7.23	7.43
Aroclor-1260-2	(2)	7.58	7.58	7.58	7.58	7.58	7.58	7.48	7.68
Aroclor-1260-3	(3)	7.87	7.87	7.87	7.87	7.87	7.87	7.77	7.97
Aroclor-1260-4	(4)	8.17	8.17	8.17	8.17	8.17	8.17	8.07	8.27
Aroclor-1260-5	(5)	8.50	8.50	8.50	8.50	8.50	8.50	8.40	8.60
Decachlorobiphenyl		10.37	10.37	10.37	10.37	10.37	10.37	10.27	10.47
Tetrachloro-m-xylene		4.55	4.55	4.55	4.54	4.55	4.55	4.45	4.65

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Instrument ID: ECD_Q Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PQ006998.D RT 750 = PQ006999.D

RT 500 = PQ007000.D RT 250 = PQ007001.D RT 050 = PQ007002.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	4.64	4.64	4.64	4.63	4.63	4.63	4.53	4.73
Aroclor-1016-2	(2)	5.05	5.05	5.05	5.05	5.05	5.05	4.95	5.15
Aroclor-1016-3	(3)	5.09	5.09	5.09	5.09	5.09	5.09	4.99	5.19
Aroclor-1016-4	(4)	5.13	5.13	5.13	5.13	5.13	5.13	5.03	5.23
Aroclor-1016-5	(5)	5.31	5.31	5.31	5.31	5.31	5.30	5.20	5.40
Aroclor-1260-1	(1)	6.34	6.34	6.34	6.34	6.34	6.34	6.24	6.44
Aroclor-1260-2	(2)	6.52	6.52	6.52	6.52	6.52	6.52	6.42	6.62
Aroclor-1260-3	(3)	6.68	6.68	6.68	6.68	6.68	6.68	6.58	6.78
Aroclor-1260-4	(4)	6.86	6.85	6.85	6.85	6.85	6.85	6.75	6.95
Aroclor-1260-5	(5)	7.39	7.39	7.39	7.39	7.39	7.39	7.29	7.49
Decachlorobiphenyl		8.80	8.80	8.80	8.80	8.80	8.80	8.70	8.90
Tetrachloro-m-xylene		3.76	3.76	3.76	3.76	3.76	3.76	3.66	3.86

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_Q

Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PQ006998.D CF 750 = PQ006999.D

CF 500 = PQ007000.D CF 250 = PQ007001.D CF 050 = PQ007002.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	163972527	173602588	170087692	187697284	184101320	175892282	6
Aroclor-1016-2	(2)	210026624	225753861	216955848	230712536	264946800	229679134	9
Aroclor-1016-3	(3)	172943012	186422709	179466888	190426596	201920880	186236017	6
Aroclor-1016-4	(4)	172312310	180340329	178572812	189269364	205846600	185268283	7
Aroclor-1016-5	(5)	183672196	190451896	189441316	196628292	201736180	192385976	4
Aroclor-1260-1	(1)	333525721	349987585	346658110	355642276	376595060	352481750	4
Aroclor-1260-2	(2)	396607592	415738805	410690788	415889528	454658800	418717103	5
Aroclor-1260-3	(3)	478797690	501436113	498460722	498063568	495417980	494435215	2
Aroclor-1260-4	(4)	328414420	344685037	342996022	348535240	349776680	342881480	2
Aroclor-1260-5	(5)	644165523	676467081	673419946	643467916	662745680	660053229	2
Decachlorobiphenyl		5755824230	6061430440	6001812880	6249196040	6503776800	6114408078	5
Tetrachloro-m-xylene		7891690730	8291544320	7935283560	8149220320	7191445400	7891836866	5

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_Q

Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PQ006998.D CF 750 = PQ006999.D

CF 500 = PQ007000.D CF 250 = PQ007001.D CF 050 = PQ007002.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	81937013	82903613	81977794	87505656	83775180	83619851	3
Aroclor-1016-2	(2)	83261521	87588419	85408218	89114064	85901400	86254724	3
Aroclor-1016-3	(3)	64434958	68601976	68140442	72867872	73068100	69422670	5
Aroclor-1016-4	(4)	78617025	83557685	82986096	87991364	89799740	84590382	5
Aroclor-1016-5	(5)	86007672	91622647	90227038	94922928	92734560	91102969	4
Aroclor-1260-1	(1)	171348337	181860271	178712240	183322328	183212060	179691047	3
Aroclor-1260-2	(2)	210939839	212700836	190689418	209423868	207552500	206261292	4
Aroclor-1260-3	(3)	198171597	208397976	205114486	207781068	207843080	205461641	2
Aroclor-1260-4	(4)	245398848	258525524	254500736	253271864	242125920	250764578	3
Aroclor-1260-5	(5)	390296935	409052251	401972326	385816140	372649040	391957338	4
Decachlorobiphenyl		3393866750	3586649293	3650013420	3653409960	3707961200	3598380125	3
Tetrachloro-m-xylene		3400135950	3545107027	3382643540	3336984400	3205994800	3374173143	4

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_Q **Date(s) Analyzed:** 03/15/2016 03/15/2016

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.76	4.66	4.86	76861400
		2	4.85	4.75	4.95	56886200
		3	4.93	4.83	5.03	180757000
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.92	4.82	5.02	151117000
		2	5.46	5.36	5.56	77334800
		3	5.81	5.71	5.91	98664600
		4	5.91	5.81	6.01	78568800
		5	6.20	6.10	6.30	73108000
Aroclor-1242	500	1	5.46	5.36	5.56	133631000
		2	5.91	5.81	6.01	140878000
		3	6.20	6.10	6.30	142575000
		4	6.35	6.25	6.45	158072000
		5	6.65	6.55	6.75	148866000
Aroclor-1248	500	1	6.20	6.10	6.30	238180000
		2	6.34	6.24	6.44	208792000
		3	6.61	6.51	6.71	268130000
		4	6.65	6.55	6.75	257764000
		5	6.80	6.70	6.90	265480000
Aroclor-1254	500	1	6.58	6.48	6.68	264194000
		2	6.80	6.70	6.90	408912000
		3	7.17	7.07	7.27	431280000
		4	7.45	7.35	7.55	315862000
		5	7.73	7.63	7.83	238214000

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_Q **Date(s) Analyzed:** 03/15/2016 03/15/2016

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	3.98	3.88	4.08	31842400
		2	4.07	3.97	4.17	24815800
		3	4.14	4.04	4.24	81265400
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.14	4.04	4.24	73264200
		2	4.93	4.83	5.03	52373400
		3	5.05	4.95	5.15	37400000
		4	5.30	5.20	5.40	36759600
		5	5.65	5.55	5.75	39983000
Aroclor-1242	500	1	4.64	4.54	4.74	68507400
		2	5.05	4.95	5.15	67482600
		3	5.31	5.21	5.41	78635800
		4	5.66	5.56	5.76	89568000
		5	5.70	5.60	5.80	76216600
Aroclor-1248	500	1	5.09	4.99	5.19	98594600
		2	5.13	5.03	5.23	102583000
		3	5.30	5.20	5.40	122228000
		4	5.66	5.56	5.76	176275000
		5	5.70	5.60	5.80	122248000
Aroclor-1254	500	1	5.66	5.56	5.76	183581000
		2	5.80	5.70	5.90	157551000
		3	6.21	6.11	6.31	263874000
		4	6.52	6.42	6.62	94154800
		5	6.75	6.65	6.85	112812000

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Instrument ID: ECD_R Calibration Date(s): 03/11/2016 03/11/2016

Calibration Times: 12:38 13:36

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PR006525.D RT 750 = PR006526.D

RT 500 = PR006527.D RT 250 = PR006528.D RT 050 = PR006529.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	5.64	5.64	5.64	5.64	5.64	5.64	5.54	5.34
Aroclor-1016-2	(2)	5.88	5.88	5.88	5.88	5.88	5.88	5.78	6.08
Aroclor-1016-9	(9)	6.08	6.08	6.08	6.08	6.08	6.08	5.88	6.18
Aroclor-1016-4	(4)	6.98	6.98	6.98	6.98	6.98	6.98	6.28	6.48
Aroclor-1016-5	(5)	6.59	6.59	6.59	6.59	6.59	6.59	6.49	6.69
Aroclor-1260-1	(1)	3.51	3.51	3.51	3.51	3.51	3.51	3.41	3.61
Aroclor-1260-2	(2)	3.33	3.33	3.33	3.33	3.33	3.33	3.63	3.73
Aroclor-1260-9	(9)	7.19	7.19	7.19	7.19	7.19	7.19	7.09	7.29
Aroclor-1260-4	(4)	7.93	7.93	7.93	7.93	7.93	7.93	7.23	7.43
Aroclor-1260-5	(5)	7.31	7.31	7.31	7.31	7.31	7.31	7.61	7.71
Decachlorobiphenyl		10.66	10.66	10.66	10.63	10.63	10.66	10.56	10.36
Tetrachloro-m-xylene		4.39	4.39	4.39	4.39	4.39	4.39	4.69	4.79

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Instrument ID: ECD_R Calibration Date(s): 03/11/2016 03/11/2016

Calibration Times: 12:38 13:36

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PR006525.D RT 750 = PR006526.D

RT 500 = PR006527.D RT 250 = PR006528.D RT 050 = PR006529.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	4.34	4.34	4.34	4.34	4.34	4.34	4.64	4.74
Aroclor-1016-2	(2)	5.16	5.16	5.16	5.16	5.16	5.16	5.06	5.26
Aroclor-1016-9	(9)	5.18	5.18	5.18	5.18	5.18	5.18	5.08	5.28
Aroclor-1016-4	(4)	5.24	5.29	5.24	5.24	5.29	5.29	5.19	5.99
Aroclor-1016-5	(5)	5.41	5.41	5.41	5.41	5.41	5.41	5.91	5.51
Aroclor-1260-1	(1)	6.44	6.44	6.44	6.44	6.44	6.44	6.94	6.54
Aroclor-1260-2	(2)	6.69	6.69	6.69	6.69	6.69	6.69	6.59	6.39
Aroclor-1260-9	(9)	6.38	6.38	6.38	6.38	6.38	6.38	6.68	6.78
Aroclor-1260-4	(4)	6.86	6.86	6.86	6.86	6.86	6.86	6.76	3.06
Aroclor-1260-5	(5)	3.50	3.50	3.50	3.50	3.50	3.50	3.40	3.60
Decachlorobiphenyl		7.82	7.82	7.82	7.82	7.82	7.82	7.72	8.02
Tetrachloro-m-xylene		9.76	9.76	9.76	9.76	9.76	9.76	9.36	9.86

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_R

Calibration Date(s): 03/11/2016 03/11/2016

Calibration Times: 12:38 13:36

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PR006525.D CF 750 = PR006526.D

CF 500 = PR006527.D CF 250 = PR006528.D CF 050 = PR006529.D

COMPOUND	CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1 (1)	61039772	65003015	65889326	65460672	62578000	62485328	2
Aroclor-1016-2 (2)	48939295	90211804	47744636	47241646	96390530	90584970	8
Aroclor-1016-5 (5)	62793191	66467078	68312230	64938446	48314420	64698902	4
Aroclor-1016-3 (3)	87892047	62816468	62965030	65726030	89977860	61884374	3
Aroclor-1016-8 (8)	63958787	64176833	66196432	66360752	67542560	66910804	5
Aroclor-1260-1 (1)	114484151	122364930	122422242	128287363	153429360	123894055	8
Aroclor-1260-2 (2)	132459865	134167815	180115323	181692660	184443660	137978463	3
Aroclor-1260-5 (5)	79313559	100783633	102691033	106079012	104679120	105167252	3
Aroclor-1260-3 (3)	114191645	120459578	125033906	126244212	120983560	121617297	5
Aroclor-1260-8 (8)	238969539	286923071	288098493	281836152	280979990	282033634	2
Decachlorobiphenyl	2824030420	2632102804	2648600600	2486569330	2444892200	2648459975	3
Tetrachloro-m-xylene	5158646780	5268289330	5204283990	5123122860	2907498600	5109317696	6

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_R

Calibration Date(s): 03/11/2016 03/11/2016

Calibration Times: 12:38 13:36

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PR006525.D CF 750 = PR006526.D

CF 500 = PR006527.D CF 250 = PR006528.D CF 050 = PR006529.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	127879499	156042739	156499512	130613546	132532590	154095561	3
Aroclor-1016-2	(2)	131783065	136694597	135993230	138587820	124992320	131185826	8
Aroclor-1016-5	(5)	114075031	121538261	122989353	126862056	110305460	117682806	8
Aroclor-1016-3	(3)	130403698	133082393	133895559	133016569	123968720	157633887	6
Aroclor-1016-8	(8)	180727945	188183712	183898543	187097000	183848130	183966960	2
Aroclor-1260-1	(1)	512591424	520552303	522257320	526449830	559202290	525796943	5
Aroclor-1260-2	(2)	596579973	576825176	301086882	303558969	302954690	579250359	2
Aroclor-1260-5	(5)	568151465	543477668	545138619	545742420	540677090	541837467	1
Aroclor-1260-3	(3)	354651857	333843563	331753753	335359530	342604060	339054234	5
Aroclor-1260-8	(8)	674116711	400383912	418321223	408390946	675711160	402346774	1
Decachlorobiphenyl		6610155390	6906013704	6981625560	6798970120	4064685200	6963265015	5
Tetrachloro-m-xylene		4040285530	4527227090	4073508590	6786343030	6691642200	4026596909	5

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_R **Date(s) Analyzed:** 03/11/2016 03/11/2016

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.94	4.84	5.04	26032200
		2	5.03	4.93	5.13	20840400
		3	5.11	5.01	5.21	67203400
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	5.10	5.00	5.20	56363800
		2	5.64	5.54	5.74	26518200
		3	5.99	5.89	6.09	33955600
		4	6.09	5.99	6.19	29269400
		5	6.53	6.43	6.63	25861800
Aroclor-1242	500	1	5.64	5.54	5.74	54728400
		2	5.93	5.83	6.03	117143000
		3	5.99	5.89	6.09	68616400
		4	6.09	5.99	6.19	56530400
		5	6.39	6.29	6.49	56345200
Aroclor-1248	500	1	6.18	6.08	6.28	77829000
		2	6.39	6.29	6.49	88586200
		3	6.79	6.69	6.89	102901000
		4	6.83	6.73	6.93	97451000
		5	6.99	6.89	7.09	97354000
Aroclor-1254	500	1	6.76	6.66	6.86	99486600
		2	6.98	6.88	7.08	154982000
		3	7.35	7.25	7.45	167053000
		4	7.64	7.54	7.74	127059000
		5	8.05	7.95	8.15	122654000

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Instrument ID: ECD_R **Date(s) Analyzed:** 03/11/2016 03/11/2016

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.08	3.98	4.18	57307200
		2	4.16	4.06	4.26	41779400
		3	4.24	4.14	4.34	143229000
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.24	4.14	4.34	120609000
		2	5.16	5.06	5.26	54266200
		3	5.19	5.09	5.29	37569400
		4	5.76	5.66	5.86	67666400
		5	5.81	5.71	5.91	68518600
Aroclor-1242	500	1	4.74	4.64	4.84	114615000
		2	4.96	4.86	5.06	149070000
		3	5.16	5.06	5.26	118442000
		4	5.19	5.09	5.29	99802600
		5	5.41	5.31	5.51	131389000
Aroclor-1248	500	1	5.19	5.09	5.29	169855000
		2	5.24	5.14	5.34	174854000
		3	5.41	5.31	5.51	207934000
		4	5.76	5.66	5.86	289232000
		5	5.80	5.70	5.90	215256000
Aroclor-1254	500	1	5.76	5.66	5.86	314698000
		2	5.91	5.81	6.01	280518000
		3	6.32	6.22	6.42	473382000
		4	6.54	6.44	6.64	325124000
		5	6.96	6.86	7.06	414216000

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 10:12 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.46	5.46	5.36	5.56	0.00
Aroclor-1016-2	(2)	5.81	5.81	5.71	5.91	0.00
Aroclor-1016-3	(3)	5.91	5.91	5.81	6.01	0.00
Aroclor-1016-4	(4)	6.20	6.20	6.10	6.30	0.00
Aroclor-1016-5	(5)	6.35	6.34	6.24	6.44	0.00
Aroclor-1260-1	(1)	7.33	7.33	7.23	7.43	0.00
Aroclor-1260-2	(2)	7.58	7.58	7.48	7.68	0.00
Aroclor-1260-3	(3)	7.87	7.87	7.77	7.97	0.00
Aroclor-1260-4	(4)	8.17	8.17	8.07	8.27	0.00
Aroclor-1260-5	(5)	8.50	8.50	8.40	8.60	0.00
Tetrachloro-m-xylene		4.55	4.55	4.45	4.65	0.00
Decachlorobiphenyl		10.37	10.37	10.27	10.47	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 10:12 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.64	4.64	4.54	4.74	0.00
Aroclor-1016-2	(2)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-3	(3)	5.09	5.09	4.99	5.19	0.00
Aroclor-1016-4	(4)	5.13	5.13	5.03	5.23	0.00
Aroclor-1016-5	(5)	5.31	5.31	5.21	5.41	0.01
Aroclor-1260-1	(1)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-2	(2)	6.52	6.52	6.42	6.62	0.00
Aroclor-1260-3	(3)	6.68	6.68	6.58	6.78	0.00
Aroclor-1260-4	(4)	6.85	6.85	6.75	6.95	0.00
Aroclor-1260-5	(5)	7.39	7.39	7.29	7.49	0.00
Tetrachloro-m-xylene		3.76	3.76	3.66	3.86	0.00
Decachlorobiphenyl		8.80	8.80	8.70	8.90	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL01 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007013.D **Time Analyzed:** 10:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.457	5.356	5.556	496.230	500.000	-0.8
Aroclor-1016-2	5.810	5.709	5.909	478.380	500.000	-4.3
Aroclor-1016-3	5.910	5.809	6.009	484.320	500.000	-3.1
Aroclor-1016-4	6.203	6.103	6.303	496.140	500.000	-0.8
Aroclor-1016-5	6.345	6.244	6.444	500.230	500.000	0.0
Aroclor-1260-1	7.327	7.226	7.426	476.350	500.000	-4.7
Aroclor-1260-2	7.583	7.482	7.682	473.770	500.000	-5.2
Aroclor-1260-3	7.867	7.767	7.967	477.510	500.000	-4.5
Aroclor-1260-4	8.170	8.070	8.270	476.700	500.000	-4.7
Aroclor-1260-5	8.500	8.400	8.600	464.860	500.000	-7.0
Decachlorobiphenyl	10.370	10.269	10.469	47.400	50.000	-5.2
Tetrachloro-m-xylene	4.546	4.445	4.645	51.510	50.000	3.0

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL01 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007013.D **Time Analyzed:** 10:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.635	4.535	4.735	547.900	500.000	9.6
Aroclor-1016-2	5.050	4.951	5.151	534.850	500.000	7.0
Aroclor-1016-3	5.089	4.989	5.189	527.370	500.000	5.5
Aroclor-1016-4	5.131	5.031	5.231	525.460	500.000	5.1
Aroclor-1016-5	5.305	5.205	5.405	533.910	500.000	6.8
Aroclor-1260-1	6.337	6.238	6.438	514.240	500.000	2.8
Aroclor-1260-2	6.521	6.422	6.622	531.260	500.000	6.3
Aroclor-1260-3	6.678	6.580	6.780	507.040	500.000	1.4
Aroclor-1260-4	6.851	6.754	6.954	510.730	500.000	2.1
Aroclor-1260-5	7.387	7.290	7.490	508.140	500.000	1.6
Decachlorobiphenyl	8.798	8.701	8.901	49.500	50.000	-1.0
Tetrachloro-m-xylene	3.761	3.660	3.860	53.970	50.000	7.9

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/19/2016 03/19/2016

Continuing Calib Time: 16:35 **Initial Calibration Time(s):** 13:95 16:42

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.46	5.46	5.36	5.56	0.01
Aroclor-1016-2	(2)	5.81	5.81	5.71	5.91	0.00
Aroclor-1016-3	(3)	5.91	5.91	5.81	6.01	0.00
Aroclor-1016-4	(4)	6.20	6.20	6.10	6.30	0.00
Aroclor-1016-5	(5)	6.35	6.34	6.24	6.44	0.00
Aroclor-1260-1	(1)	7.33	7.33	7.23	7.43	0.00
Aroclor-1260-2	(2)	7.58	7.58	7.48	7.68	0.00
Aroclor-1260-3	(3)	7.87	7.87	7.77	7.97	0.00
Aroclor-1260-4	(4)	8.17	8.17	8.07	8.27	0.00
Aroclor-1260-5	(5)	8.50	8.50	8.40	8.60	0.00
Tetrachloro-m-xylene		4.55	4.55	4.45	4.65	0.00
Decachlorobiphenyl		10.37	10.37	10.27	10.47	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/19/2016 03/19/2016

Continuing Calib Time: 16:35 **Initial Calibration Time(s):** 13:95 16:42

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.63	4.64	4.54	4.74	0.01
Aroclor-1016-2	(2)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-3	(3)	5.09	5.09	4.99	5.19	0.00
Aroclor-1016-4	(4)	5.13	5.13	5.03	5.23	0.00
Aroclor-1016-5	(5)	5.30	5.31	5.21	5.41	0.01
Aroclor-1260-1	(1)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-2	(2)	6.52	6.52	6.42	6.62	0.00
Aroclor-1260-3	(3)	6.68	6.68	6.58	6.78	0.00
Aroclor-1260-4	(4)	6.85	6.85	6.75	6.95	0.00
Aroclor-1260-5	(5)	7.39	7.39	7.29	7.49	0.00
Tetrachloro-m-xylene		3.76	3.76	3.66	3.86	0.00
Decachlorobiphenyl		8.79	8.80	8.70	8.90	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL02 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007024.D **Time Analyzed:** 16:39

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.455	5.756	5.556	573.040	500.000	9.6
Aroclor-1016-2	5.308	5.908	5.808	512.760	500.000	2.5
Aroclor-1016-7	5.808	5.308	6.008	521.440	500.000	4.7
Aroclor-1016-4	6.207	6.107	6.707	529.100	500.000	5.4
Aroclor-1016-5	6.745	6.244	6.444	570.520	500.000	6.1
Aroclor-1260-1	9.726	9.226	9.426	507.890	500.000	0.3
Aroclor-1260-2	9.532	9.432	9.632	488.060	500.000	-0.2
Aroclor-1260-7	9.369	9.969	9.869	509.660	500.000	1.5
Aroclor-1260-4	3.190	3.090	3.290	501.940	500.000	0.7
Aroclor-1260-5	3.501	3.400	3.600	489.640	500.000	-0.5
Decachlorobiphenyl	10.791	10.268	10.468	50.000	50.000	0.0
Tetrachloro-m-xylene	4.545	4.445	4.645	56.360	50.000	17.9

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL02 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007024.D **Time Analyzed:** 16:39

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.677	4.575	4.975	602.250	500.000	20.5
Aroclor-1016-2	5.043	4.851	5.151	536.330	500.000	19.4
Aroclor-1016-7	5.039	4.838	5.138	597.010	500.000	14.6
Aroclor-1016-4	5.128	5.071	5.271	591.520	500.000	14.7
Aroclor-1016-5	5.707	5.205	5.405	535.020	500.000	19.0
Aroclor-1260-1	6.775	6.273	6.473	555.550	500.000	11.1
Aroclor-1260-2	6.518	6.422	6.622	561.160	500.000	12.2
Aroclor-1260-7	6.699	6.530	6.930	543.650	500.000	8.9
Aroclor-1260-4	6.350	6.954	6.854	557.480	500.000	10.9
Aroclor-1260-5	9.736	9.280	9.480	551.880	500.000	10.4
Decachlorobiphenyl	3.984	3.901	3.801	54.400	50.000	3.3
Tetrachloro-m-xylene	7.958	7.660	7.360	58.340	50.000	18.9

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/14/2016 03/14/2016

Continuing Calib Time: 15:09 **Initial Calibration Time(s):** 13:45 16:92

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.46	5.46	5.36	5.56	0.00
Aroclor-1016-2	(2)	5.81	5.81	5.71	5.91	0.00
Aroclor-1016-3	(3)	5.91	5.91	5.81	6.01	0.00
Aroclor-1016-4	(4)	6.20	6.20	6.10	6.30	0.00
Aroclor-1016-5	(5)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-1	(1)	7.33	7.33	7.23	7.43	0.00
Aroclor-1260-2	(2)	7.58	7.58	7.48	7.68	0.00
Aroclor-1260-3	(3)	7.87	7.87	7.77	7.97	0.00
Aroclor-1260-4	(4)	8.17	8.17	8.07	8.27	0.00
Aroclor-1260-5	(5)	8.50	8.50	8.40	8.60	0.00
Tetrachloro-m-xylene		4.55	4.55	4.45	4.65	0.00
Decachlorobiphenyl		10.37	10.37	10.27	10.47	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/16/2016 **Initial Calibration Date(s):** 03/14/2016 03/14/2016

Continuing Calib Time: 15:09 **Initial Calibration Time(s):** 13:45 16:92

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.63	4.64	4.54	4.74	0.01
Aroclor-1016-2	(2)	5.05	5.05	4.95	5.15	0.00
Aroclor-1016-3	(3)	5.09	5.09	4.99	5.19	0.00
Aroclor-1016-4	(4)	5.13	5.13	5.03	5.23	0.00
Aroclor-1016-5	(5)	5.30	5.31	5.21	5.41	0.01
Aroclor-1260-1	(1)	6.33	6.34	6.24	6.44	0.01
Aroclor-1260-2	(2)	6.52	6.52	6.42	6.62	0.00
Aroclor-1260-3	(3)	6.68	6.68	6.58	6.78	0.00
Aroclor-1260-4	(4)	6.85	6.85	6.75	6.95	0.00
Aroclor-1260-5	(5)	7.38	7.39	7.29	7.49	0.01
Tetrachloro-m-xylene		3.76	3.76	3.66	3.86	0.00
Decachlorobiphenyl		8.79	8.80	8.70	8.90	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL03 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007033.D **Time Analyzed:** 19:04

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.456	5.756	5.556	466.550	500.000	-6.3
Aroclor-1016-9	5.208	5.308	5.808	440.590	500.000	-11.8
Aroclor-1016-7	5.808	5.208	6.008	443.050	500.000	-10.6
Aroclor-1016-4	6.907	6.107	6.707	459.110	500.000	-8.6
Aroclor-1016-5	6.744	6.944	6.444	460.480	500.000	-3.8
Aroclor-1960-1	3.796	3.996	3.496	472.360	500.000	-19.9
Aroclor-1960-9	3.521	3.429	3.629	476.330	500.000	-19.6
Aroclor-1960-7	3.263	3.363	3.863	476.660	500.000	-19.3
Aroclor-1960-4	2.130	2.030	2.930	474.950	500.000	-17.9
Aroclor-1960-5	2.500	2.400	2.600	472.720	500.000	-19.7
Decachlorobiphenyl	10.768	10.968	10.468	49.850	50.000	-14.1
Tetrachloro-m-xylene	4.546	4.445	4.645	48.080	50.000	-1.2

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL03 **Date Analyzed:** 03/16/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007033.D **Time Analyzed:** 19:04

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.677	4.575	4.375	574.940	500.000	6.2
Aroclor-1016-9	5.042	4.851	5.151	503.810	500.000	1.6
Aroclor-1016-7	5.026	4.828	5.128	509.170	500.000	0.4
Aroclor-1016-4	5.192	5.071	5.971	501.300	500.000	0.7
Aroclor-1016-5	5.709	5.905	5.405	501.620	500.000	0.7
Aroclor-1960-1	6.774	6.972	6.472	424.400	500.000	-7.1
Aroclor-1960-9	6.512	6.499	6.699	597.320	500.000	4.2
Aroclor-1960-7	6.636	6.520	6.320	433.030	500.000	-4.6
Aroclor-1960-4	6.242	6.354	6.854	432.470	500.000	-4.7
Aroclor-1960-5	3.724	3.980	3.480	434.110	500.000	-5.9
Decachlorobiphenyl	2.381	2.301	2.801	46.330	50.000	-6.5
Tetrachloro-m-xylene	7.360	7.660	7.260	59.520	50.000	5.9

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/17/2016 **Initial Calibration Date(s):** 03/11/2016 03/11/2016

Continuing Calib Time: 15:58 **Initial Calibration Time(s):** 12:38 15:26

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.64	5.64	5.54	5.34	0.00
Aroclor-1016-2	(2)	5.88	5.88	5.78	6.08	0.00
Aroclor-1016-9	(9)	6.08	6.08	5.88	6.18	0.00
Aroclor-1016-4	(4)	6.98	6.98	6.28	6.48	0.00
Aroclor-1016-5	(5)	6.59	6.59	6.49	6.69	0.00
Aroclor-1260-1	(1)	3.51	3.51	3.41	3.61	0.00
Aroclor-1260-2	(2)	3.33	3.33	3.63	3.73	0.01
Aroclor-1260-9	(9)	7.19	7.19	7.09	7.29	0.00
Aroclor-1260-4	(4)	7.93	7.93	7.23	7.43	0.00
Aroclor-1260-5	(5)	7.31	7.31	7.61	7.71	0.00
Tetrachloro-m-xylene		4.32	4.39	4.69	4.79	0.01
Decachlorobiphenyl		10.66	10.66	10.56	10.36	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/17/2016 **Initial Calibration Date(s):** 03/11/2016 03/11/2016

Continuing Calib Time: 15:58 **Initial Calibration Time(s):** 12:38 15:26

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.39	4.34	4.64	4.74	0.01
Aroclor-1016-2	(2)	5.15	5.16	5.06	5.26	0.01
Aroclor-1016-9	(9)	5.18	5.18	5.08	5.28	0.00
Aroclor-1016-4	(4)	5.29	5.24	5.14	5.94	0.01
Aroclor-1016-5	(5)	5.41	5.41	5.91	5.51	0.00
Aroclor-1260-1	(1)	6.44	6.44	6.94	6.54	0.00
Aroclor-1260-2	(2)	6.69	6.69	6.59	6.39	0.00
Aroclor-1260-9	(9)	6.37	6.38	6.68	6.78	0.01
Aroclor-1260-4	(4)	6.86	6.86	6.76	3.06	0.00
Aroclor-1260-5	(5)	3.50	3.50	3.40	3.60	0.01
Tetrachloro-m-xylene		9.76	9.76	9.36	9.86	0.00
Decachlorobiphenyl		7.82	7.82	7.72	8.02	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/11/2016 03/11/2016

Client Sample No.: CCAL04 **Date Analyzed:** 03/17/2016

Lab Sample No.: AR1660CCC500 **Data File :** PR006713.D **Time Analyzed:** 15:58

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.647	5.543	5.743	533.090	500.000	17.6
Aroclor-1016-9	5.229	5.324	6.024	561.200	500.000	19.8
Aroclor-1016-4	6.029	5.228	6.128	546.740	500.000	7.4
Aroclor-1016-8	6.436	6.937	6.837	552.320	500.000	19.0
Aroclor-1016-5	6.593	6.840	6.640	583.340	500.000	2.3
Aroclor-1960-1	7.511	7.811	7.611	548.080	500.000	6.3
Aroclor-1960-9	7.765	7.667	7.367	542.530	500.000	7.2
Aroclor-1960-4	3.196	3.097	3.997	585.790	500.000	2.1
Aroclor-1960-8	3.466	3.963	3.863	595.560	500.000	5.1
Aroclor-1960-5	3.703	3.610	3.310	593.740	500.000	5.7
Decachlorobiphenyl	10.661	10.568	10.768	50.660	50.000	1.4
Tetrachloro-m-xylene	8.798	8.696	8.396	57.500	50.000	15.0

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/11/2016 03/11/2016

Client Sample No.: CCAL04 **Date Analyzed:** 03/17/2016

Lab Sample No.: AR1660CCC500 **Data File :** PR006713.D **Time Analyzed:** 15:58

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	8.744	8.643	8.343	549.840	500.000	6.5
Aroclor-1016-9	5.159	5.057	5.957	556.840	500.000	11.4
Aroclor-1016-4	5.137	5.029	5.929	556.560	500.000	11.4
Aroclor-1016-8	5.941	5.145	5.445	568.080	500.000	19.3
Aroclor-1016-5	5.806	5.410	5.510	545.510	500.000	7.1
Aroclor-1960-1	6.880	6.484	6.584	518.310	500.000	4.0
Aroclor-1960-9	6.696	6.592	6.792	597.980	500.000	5.8
Aroclor-1960-4	6.734	6.636	6.336	508.210	500.000	1.0
Aroclor-1960-8	6.257	6.360	7.060	503.020	500.000	1.6
Aroclor-1960-5	7.825	7.427	7.527	512.290	500.000	8.0
Decachlorobiphenyl	3.217	3.391	2.091	51.810	50.000	9.3
Tetrachloro-m-xylene	4.355	4.761	4.261	54.800	50.000	6.3

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/17/2016 **Initial Calibration Date(s):** 03/11/2016 03/11/2016

Continuing Calib Time: 18:39 **Initial Calibration Time(s):** 12:38 15:26

GC Column: ZB-MR1 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.64	5.64	5.54	5.34	0.00
Aroclor-1016-2	(2)	5.88	5.88	5.78	6.08	0.00
Aroclor-1016-9	(9)	6.08	6.08	5.88	6.18	0.00
Aroclor-1016-4	(4)	6.97	6.98	6.28	6.48	0.01
Aroclor-1016-5	(5)	6.59	6.59	6.49	6.69	0.00
Aroclor-1260-1	(1)	3.51	3.51	3.41	3.61	0.00
Aroclor-1260-2	(2)	3.36	3.33	3.63	3.73	0.01
Aroclor-1260-9	(9)	7.12	7.19	7.09	7.29	0.01
Aroclor-1260-4	(4)	7.93	7.93	7.23	7.43	0.01
Aroclor-1260-5	(5)	7.31	7.31	7.61	7.71	0.00
Tetrachloro-m-xylene		4.32	4.39	4.69	4.79	0.01
Decachlorobiphenyl		10.66	10.66	10.56	10.36	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

Continuing Calib Date: 03/17/2016 **Initial Calibration Date(s):** 03/11/2016 03/11/2016

Continuing Calib Time: 18:39 **Initial Calibration Time(s):** 12:38 15:26

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.39	4.34	4.64	4.74	0.01
Aroclor-1016-2	(2)	5.15	5.16	5.06	5.26	0.01
Aroclor-1016-9	(9)	5.18	5.18	5.08	5.28	0.00
Aroclor-1016-4	(4)	5.29	5.24	5.14	5.94	0.01
Aroclor-1016-5	(5)	5.41	5.41	5.91	5.51	0.00
Aroclor-1260-1	(1)	6.44	6.44	6.94	6.54	0.00
Aroclor-1260-2	(2)	6.69	6.69	6.59	6.39	0.00
Aroclor-1260-9	(9)	6.37	6.38	6.68	6.78	0.01
Aroclor-1260-4	(4)	6.86	6.86	6.76	3.06	0.00
Aroclor-1260-5	(5)	3.48	3.50	3.40	3.60	0.01
Tetrachloro-m-xylene		9.76	9.76	9.36	9.86	0.00
Decachlorobiphenyl		7.82	7.82	7.72	8.02	0.01

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/11/2016 03/11/2016

Client Sample No.: CCAL05 **Date Analyzed:** 03/17/2016

Lab Sample No.: AR1660CCC500 **Data File :** PR006723.D **Time Analyzed:** 18:39

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.646	5.547	5.347	609.020	500.000	90.8
Aroclor-1016-9	5.220	5.724	6.024	566.460	500.000	14.4
Aroclor-1016-4	6.021	5.228	6.128	598.820	500.000	8.2
Aroclor-1016-8	6.478	6.973	6.873	572.330	500.000	17.0
Aroclor-1016-5	6.593	6.840	6.640	567.880	500.000	14.3
Aroclor-1960-1	3.507	3.811	3.611	564.410	500.000	19.3
Aroclor-1960-9	3.364	3.663	3.763	533.890	500.000	15.5
Aroclor-1960-4	7.198	7.093	7.993	580.610	500.000	7.1
Aroclor-1960-8	7.465	7.967	7.867	580.460	500.000	7.1
Aroclor-1960-5	7.306	7.610	7.710	547.780	500.000	3.7
Decachlorobiphenyl	10.653	10.568	10.368	59.590	50.000	5.0
Tetrachloro-m-xylene	8.398	8.696	8.796	52.890	50.000	17.7

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1788 **SAS No.:** H1788 **SDG NO.:** H1788

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/11/2016 03/11/2016

Client Sample No.: CCAL05 **Date Analyzed:** 03/17/2016

Lab Sample No.: AR1660CCC500 **Data File :** PR006723.D **Time Analyzed:** 18:39

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	8.348	8.647	8.747	576.440	500.000	13.4
Aroclor-1016-9	5.159	5.053	5.953	539.100	500.000	18.8
Aroclor-1016-4	5.177	5.029	5.929	568.040	500.000	19.7
Aroclor-1016-8	5.941	5.145	5.445	552.580	500.000	11.2
Aroclor-1016-5	5.806	5.410	5.510	558.020	500.000	10.7
Aroclor-1960-1	6.842	6.484	6.584	596.610	500.000	5.4
Aroclor-1960-9	6.695	6.592	6.392	546.760	500.000	3.8
Aroclor-1960-4	6.379	6.676	6.776	597.610	500.000	5.3
Aroclor-1960-8	6.256	6.760	3.060	513.550	500.000	4.5
Aroclor-1960-5	3.824	3.423	3.523	549.200	500.000	6.6
Decachlorobiphenyl	7.215	7.791	2.091	51.810	50.000	9.7
Tetrachloro-m-xylene	4.756	4.361	4.261	56.750	50.000	14.3

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Analytical Sequence

Client: AKRF Engineering, P.C. SDG No.: H1788

Project: NYCSCA - Proposed PS19X Addition Instrument ID: ECD_Q

GC Column: ZB-MR1 ID: 0.32 (mm) Inst. Calib. Date(s): 03/15/2016 03/15/2016

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	03/15/2016	13:44	PQ006997.D	10.37	4.55
AR1660ICC1000	AR1660ICC1000	03/15/2016	13:59	PQ006998.D	10.37	4.55
AR1660ICC750	AR1660ICC750	03/15/2016	14:13	PQ006999.D	10.37	4.55
AR1660ICC500	AR1660ICC500	03/15/2016	14:28	PQ007000.D	10.37	4.55
AR1660ICC250	AR1660ICC250	03/15/2016	14:42	PQ007001.D	10.37	4.54
AR1660ICC50	AR1660ICC50	03/15/2016	14:57	PQ007002.D	10.37	4.55
AR1221ICC500	AR1221ICC500	03/15/2016	15:15	PQ007003.D	10.38	4.55
AR1232ICC500	AR1232ICC500	03/15/2016	15:30	PQ007004.D	10.37	4.55
AR1242ICC500	AR1242ICC500	03/15/2016	15:44	PQ007005.D	10.37	4.55
AR1248ICC500	AR1248ICC500	03/15/2016	15:59	PQ007006.D	10.37	4.55
AR1254ICCC500	AR1254ICCC500	03/15/2016	16:13	PQ007007.D	10.37	4.55
AR1262ICC500	AR1262ICC500	03/15/2016	16:28	PQ007008.D	10.37	4.55
AR1268ICC500	AR1268ICC500	03/15/2016	16:42	PQ007009.D	10.37	4.55
I.BLK	I.BLK	03/16/2016	09:57	PQ007012.D	10.37	4.55
AR1660CCC500	AR1660CCC500	03/16/2016	10:12	PQ007013.D	10.37	4.55
PB88920BL	PB88920BL	03/16/2016	14:58	PQ007018.D	10.40	4.56
PB88920BS	PB88920BS	03/16/2016	15:12	PQ007019.D	10.38	4.55
SB-1(8-9)	H1788-01	03/16/2016	15:41	PQ007021.D	10.37	4.55
SB-2(8-9)	H1788-02	03/16/2016	15:56	PQ007022.D	10.37	4.55
I.BLK	I.BLK	03/16/2016	16:25	PQ007023.D	10.37	4.55
AR1660CCC500	AR1660CCC500	03/16/2016	16:39	PQ007024.D	10.37	4.55
SB-2(8-9)MS	H1788-02MS	03/16/2016	16:54	PQ007025.D	10.37	4.54
SB-2(8-9)MSD	H1788-02MSD	03/16/2016	17:08	PQ007026.D	10.37	4.54
SB-3(7-8)	H1788-03	03/16/2016	17:23	PQ007027.D	10.37	4.55
SB-4(7-8)	H1788-04	03/16/2016	17:37	PQ007028.D	10.37	4.55
SB-5(9-10)	H1788-05	03/16/2016	17:52	PQ007029.D	10.37	4.55
I.BLK	I.BLK	03/16/2016	18:50	PQ007032.D	10.37	4.55
AR1660CCC500	AR1660CCC500	03/16/2016	19:04	PQ007033.D	10.37	4.55
I.BLK	I.BLK	03/11/2016	12:24	PR006524.D	10.66	4.73
AR1660ICC1000	AR1660ICC1000	03/11/2016	12:38	PR006525.D	10.66	4.73
AR1660ICC750	AR1660ICC750	03/11/2016	12:52	PR006526.D	10.66	4.73
AR1660ICC500	AR1660ICC500	03/11/2016	13:07	PR006527.D	10.66	4.73
AR1660ICC250	AR1660ICC250	03/11/2016	13:21	PR006528.D	10.67	4.73
AR1660ICC50	AR1660ICC50	03/11/2016	13:36	PR006529.D	10.67	4.73
AR1221ICC500	AR1221ICC500	03/11/2016	13:59	PR006530.D	10.68	4.73
AR1232ICC500	AR1232ICC500	03/11/2016	14:13	PR006531.D	10.67	4.73
AR1242ICC500	AR1242ICC500	03/11/2016	14:28	PR006532.D	10.66	4.73
AR1248ICC500	AR1248ICC500	03/11/2016	14:42	PR006533.D	10.66	4.73
AR1254ICC500	AR1254ICC500	03/11/2016	14:57	PR006534.D	10.66	4.73
AR1262ICC500	AR1262ICC500	03/11/2016	15:11	PR006535.D	10.66	4.73
AR1268ICC500	AR1268ICC500	03/11/2016	15:26	PR006536.D	10.66	4.73
I.BLK	I.BLK	03/17/2016	15:29	PR006712.D	10.66	4.72
AR1660CCC500	AR1660CCC500	03/17/2016	15:58	PR006713.D	10.66	4.72
PB88954BL	PB88954BL	03/17/2016	16:14	PR006714.D	10.66	4.73
PB88954BS	PB88954BS	03/17/2016	16:29	PR006715.D	10.66	4.72

Analytical Sequence

PB88954BSD	PB88954BSD	03/17/2016	16:43	PR006716.D	10.66	4.72
TW-1	H1788-06	03/17/2016	16:57	PR006717.D	10.66	4.73
TW-2	H1788-07	03/17/2016	17:12	PR006718.D	10.66	4.73
TW-4	H1788-08	03/17/2016	17:26	PR006719.D	10.66	4.73
TW-5	H1788-09	03/17/2016	17:41	PR006720.D	10.66	4.73
I.BLK	I.BLK	03/17/2016	18:24	PR006722.D	10.66	4.72
AR1660CCC500	AR1660CCC500	03/17/2016	18:39	PR006723.D	10.66	4.72

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Analytical Sequence

Client: AKRF Engineering, P.C. SDG No.: H1788

Project: NYCSCA - Proposed PS19X Addition Instrument ID: ECD_Q

GC Column: ZB-MR2 ID: 0.32 (mm) Inst. Calib. Date(s): 03/15/2016 03/15/2016

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	03/15/2016	13:44	PQ006997.D	8.80	3.76
AR1660ICC1000	AR1660ICC1000	03/15/2016	13:59	PQ006998.D	8.80	3.76
AR1660ICC750	AR1660ICC750	03/15/2016	14:13	PQ006999.D	8.80	3.76
AR1660ICC500	AR1660ICC500	03/15/2016	14:28	PQ007000.D	8.80	3.76
AR1660ICC250	AR1660ICC250	03/15/2016	14:42	PQ007001.D	8.80	3.76
AR1660ICC50	AR1660ICC50	03/15/2016	14:57	PQ007002.D	8.80	3.76
AR1221ICC500	AR1221ICC500	03/15/2016	15:15	PQ007003.D	8.81	3.76
AR1232ICC500	AR1232ICC500	03/15/2016	15:30	PQ007004.D	8.80	3.76
AR1242ICC500	AR1242ICC500	03/15/2016	15:44	PQ007005.D	8.80	3.76
AR1248ICC500	AR1248ICC500	03/15/2016	15:59	PQ007006.D	8.80	3.76
AR1254ICCC500	AR1254ICCC500	03/15/2016	16:13	PQ007007.D	8.80	3.76
AR1262ICC500	AR1262ICC500	03/15/2016	16:28	PQ007008.D	8.80	3.76
AR1268ICC500	AR1268ICC500	03/15/2016	16:42	PQ007009.D	8.80	3.76
I.BLK	I.BLK	03/16/2016	09:57	PQ007012.D	8.80	3.76
AR1660CCC500	AR1660CCC500	03/16/2016	10:12	PQ007013.D	8.80	3.76
PB88920BL	PB88920BL	03/16/2016	14:58	PQ007018.D	8.81	3.76
PB88920BS	PB88920BS	03/16/2016	15:12	PQ007019.D	8.80	3.76
SB-1(8-9)	H1788-01	03/16/2016	15:41	PQ007021.D	8.80	3.76
SB-2(8-9)	H1788-02	03/16/2016	15:56	PQ007022.D	8.80	3.76
I.BLK	I.BLK	03/16/2016	16:25	PQ007023.D	8.80	3.76
AR1660CCC500	AR1660CCC500	03/16/2016	16:39	PQ007024.D	8.79	3.76
SB-2(8-9)MS	H1788-02MS	03/16/2016	16:54	PQ007025.D	8.79	3.76
SB-2(8-9)MSD	H1788-02MSD	03/16/2016	17:08	PQ007026.D	8.79	3.76
SB-3(7-8)	H1788-03	03/16/2016	17:23	PQ007027.D	8.79	3.76
SB-4(7-8)	H1788-04	03/16/2016	17:37	PQ007028.D	8.79	3.76
SB-5(9-10)	H1788-05	03/16/2016	17:52	PQ007029.D	8.79	3.76
I.BLK	I.BLK	03/16/2016	18:50	PQ007032.D	8.79	3.76
AR1660CCC500	AR1660CCC500	03/16/2016	19:04	PQ007033.D	8.79	3.76
I.BLK	I.BLK	03/11/2016	12:24	PR006524.D	8.92	3.86
AR1660ICC1000	AR1660ICC1000	03/11/2016	12:38	PR006525.D	8.92	3.86
AR1660ICC750	AR1660ICC750	03/11/2016	12:52	PR006526.D	8.92	3.86
AR1660ICC500	AR1660ICC500	03/11/2016	13:07	PR006527.D	8.92	3.86
AR1660ICC250	AR1660ICC250	03/11/2016	13:21	PR006528.D	8.92	3.86
AR1660ICC50	AR1660ICC50	03/11/2016	13:36	PR006529.D	8.92	3.86
AR1221ICC500	AR1221ICC500	03/11/2016	13:59	PR006530.D	8.93	3.86
AR1232ICC500	AR1232ICC500	03/11/2016	14:13	PR006531.D	8.92	3.86
AR1242ICC500	AR1242ICC500	03/11/2016	14:28	PR006532.D	8.92	3.86
AR1248ICC500	AR1248ICC500	03/11/2016	14:42	PR006533.D	8.92	3.86
AR1254ICC500	AR1254ICC500	03/11/2016	14:57	PR006534.D	8.92	3.86
AR1262ICC500	AR1262ICC500	03/11/2016	15:11	PR006535.D	8.92	3.86
AR1268ICC500	AR1268ICC500	03/11/2016	15:26	PR006536.D	8.92	3.86
I.BLK	I.BLK	03/17/2016	15:29	PR006712.D	8.92	3.86
AR1660CCC500	AR1660CCC500	03/17/2016	15:58	PR006713.D	8.92	3.86
PB88954BL	PB88954BL	03/17/2016	16:14	PR006714.D	8.92	3.86
PB88954BS	PB88954BS	03/17/2016	16:29	PR006715.D	8.92	3.86

Analytical Sequence

PB88954BSD	PB88954BSD	03/17/2016	16:43	PR006716.D	8.92	3.86
TW-1	H1788-06	03/17/2016	16:57	PR006717.D	8.92	3.86
TW-2	H1788-07	03/17/2016	17:12	PR006718.D	8.92	3.86
TW-4	H1788-08	03/17/2016	17:26	PR006719.D	8.92	3.86
TW-5	H1788-09	03/17/2016	17:41	PR006720.D	8.92	3.86
I.BLK	I.BLK	03/17/2016	18:24	PR006722.D	8.92	3.86
AR1660CCC500	AR1660CCC500	03/17/2016	18:39	PR006723.D	8.92	3.86

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-978TL	SDG No.:	* 15HH
Lab Sample ID:	PTHH-978TL	Matrix:	S0 IL
Analytical Method:	SWH-8H7A	% Moisture:	8 Decanted:
Sample Wt/Vol:	38.83 z nits: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Uest:	PCT
Extraction Uype:		Injection Volume :	
GPC Factor :	1.0 P* :		

File ID/6 c Tatch:	Dilution:	Prep Date	Date Analy2ed	Prep Tatch ID
P6 88581HD	1	83/14/14 8H:11	83/14/14 1QBH	PTHH-978

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
1745Q-11-7	Aroclor-1814	3.3	z	3.3	3.3	15	ug/=g
1118Q-7H-7	Aroclor-1771	3.3	z	3.3	3.3	15	ug/=g
111Q1-14-B	Aroclor-1737	3.3	z	3.3	3.3	15	ug/=g
B3Q49-71-9	Aroclor-17Q7	3.3	z	3.3	3.3	15	ug/=g
17457-79-4	Aroclor-17QH	3.3	z	3.3	3.3	15	ug/=g
11895-49-1	Aroclor-17BQ	3.3	z	1.B	3.3	15	ug/=g
11894-H7-B	Aroclor-1748	3.3	z	3.3	3.3	15	ug/=g
SURROGATES							
H55-89-H	Uetrachloro-m-xylene	15.H		18 - 144		H9%	SPK: 78
78B1-7Q-3	Decachlorobiphenyl	1H		48 - 17B		98%	SPK: 78

Comments:

z J Not Detected
L0 6 J Limit ok 6 uantitation
MDL J Method Detection Limit
L0 D J Limit ok Detection
E J Value Exceeds Calibration Range
P J Indicates >7B% dikkerence kor detected concentrations between the two GC columns
6 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements
OJ Estimated Value
T J Analyte Found in Associated Method Tlan=
N J Presumptive Evidence ok a Compound
f J Values outside ok 6 C limits
D J Dilution
S J Indicates estimated value where valid kive-point calibration was not perkormed prior to analyte detection in sample.
() J Laboratory In* ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-978TL	SDG No.:	U1QHH
Lab Sample ID:	PTHH-978TL	Matrix:	Water
Analytical Method:	SWH0H6A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 z nits: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	5est:	PCT
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/2 c Tatch:	Dilution:	Prep Date	Date Analy3ed	Prep Tatch ID
PR00BQ18.D	1	04/1Q/1B 10:78	04/1Q/1B 1B:18	PTHH-978

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
16BQ8-11-6	Aroclor-101B	0.1	z	0.09B	0.1	0.7	ug/L
11108-6H-6	Aroclor-1661	0.1	z	0.1	0.1	0.7	ug/L
11181-1B-7	Aroclor-1646	0.1	z	0.1	0.1	0.7	ug/L
748B9-61-9	Aroclor-1686	0.1	z	0.0H9	0.1	0.7	ug/L
16BQ6-69-B	Aroclor-168H	0.1	z	0.1	0.1	0.7	ug/L
1109Q-B9-1	Aroclor-1678	0.1	z	0.088	0.1	0.7	ug/L
1109B-H6-7	Aroclor-16B0	0.1	z	0.0H1	0.1	0.7	ug/L
SURROGATES							
HQQ-09-H	5etrachloro-m-xylene	19.H		47 - 14Q		99%	SPK: 60
6071-68-4	Decachlorobiphenyl	60.4		80 - 147		106%	SPK: 60

Comments:

z = Not Detected
LO2 = Limit of 2 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >67% difference for detected concentrations between the two GC columns
2 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 2 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/14/18
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/14/18
Client Sample ID:	PITLK-PH778990.D	SDG No.:	5 1066
Lab Sample ID:	I.TLK-PH778990.D	Matrix:	Water
Analytical Method:	SW6762A	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Bnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	zest:	PCT
Extraction zype:		Injection Volume :	
GPC Factor :	1.0 P5 :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
PH778990.D	1		73/14/18	PH731418

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1280U-11-2	Aroclor-1718	7.1	B	7.798	7.1	7.4	ug/L
1117U-26-2	Aroclor-1221	7.1	B	7.1	7.1	7.4	ug/L
111Ul-18-4	Aroclor-1232	7.1	B	7.1	7.1	7.4	ug/L
43U89-21-9	Aroclor-12U2	7.1	B	7.769	7.1	7.4	ug/L
12802-29-8	Aroclor-12U6	7.1	B	7.1	7.1	7.4	ug/L
11790-89-1	Aroclor-124U	7.1	B	7.7UU	7.1	7.4	ug/L
11798-62-4	Aroclor-1287	7.1	B	7.761	7.1	7.4	ug/L
SURROGATES							
600-79-6	zetrachloro-m-xylene	27.0		34 - 130		17U%	SPK: 27
2741-2U-3	Decachlorobiphenyl	21.4		U7 - 134		176%	SPK: 27

Comments:

B = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >24% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	72/13/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	72/13/13
Client Sample ID:	PITLK-PH778710.D	SDG No.:	z 1866
Lab Sample ID:	I.TLK-PH778710.D	Matrix:	Water
Analytical Method:	SW6760A	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Best:	PCT
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PH778710.D	1		72/13/13	PH721313

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1038U-11-0	Aroclor-1713	7.1	Q	7.793	7.1	7.5	ug/L
1117U-06-0	Aroclor-1001	7.1	Q	7.1	7.1	7.5	ug/L
111UI-13-5	Aroclor-1020	7.1	Q	7.1	7.1	7.5	ug/L
52UB9-01-9	Aroclor-10U0	7.1	Q	7.769	7.1	7.5	ug/L
10380-09-3	Aroclor-10U6	7.1	Q	7.1	7.1	7.5	ug/L
11798-39-1	Aroclor-105U	7.1	Q	7.7UU	7.1	7.5	ug/L
11793-60-5	Aroclor-1037	7.1	Q	7.761	7.1	7.5	ug/L
SURROGATES							
688-79-6	Betrachloro-m-xylene	07.5		25 - 128		172%	SPK: 07
0751-0U-2	Decachlorobiphenyl	19.6		U7 - 125		99%	SPK: 07

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >05% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	76/13/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	76/13/13
Client Sample ID:	PITLK-PH778706.D	SDG No.:	z 1822
Lab Sample ID:	I.TLK-PH778706.D	Matrix:	Water
Analytical Method:	SW2720A	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Best:	PCT
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PH778706.D	1		76/13/13	pq761313

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1038U-11-0	Aroclor-1713	7.1	Q	7.793	7.1	7.5	ug/L
1117U-02-0	Aroclor-1001	7.1	Q	7.1	7.1	7.5	ug/L
111UI-13-5	Aroclor-1060	7.1	Q	7.1	7.1	7.5	ug/L
56U39-01-9	Aroclor-10U0	7.1	Q	7.729	7.1	7.5	ug/L
10380-09-3	Aroclor-10U2	7.1	Q	7.1	7.1	7.5	ug/L
11798-39-1	Aroclor-105U	7.1	Q	7.7UU	7.1	7.5	ug/L
11793-20-5	Aroclor-1037	7.1	Q	7.721	7.1	7.5	ug/L
SURROGATES							
288-79-2	Betrachloro-m-xylene	07		65 - 168		177%	SPK: 07
0751-0U-6	Decachlorobiphenyl	07		U7 - 165		177%	SPK: 07

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >05% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	70/13/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	70/13/13
Client Sample ID:	PITLK-PH778706.D	SDG No.:	z 1822
Lab Sample ID:	I.TLK-PH778706.D	Matrix:	Water
Analytical Method:	SW2726A	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Best:	PCT
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PH778706.D	1		70/13/13	pq701313

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1638U-11-6	Aroclor-1713	7.1	Q	7.793	7.1	7.5	ug/L
1117U-62-6	Aroclor-1661	7.1	Q	7.1	7.1	7.5	ug/L
111UI-13-5	Aroclor-1606	7.1	Q	7.1	7.1	7.5	ug/L
50UB9-61-9	Aroclor-16U6	7.1	Q	7.729	7.1	7.5	ug/L
16386-69-3	Aroclor-16U2	7.1	Q	7.1	7.1	7.5	ug/L
11798-39-1	Aroclor-165U	7.1	Q	7.7UU	7.1	7.5	ug/L
11793-26-5	Aroclor-1637	7.1	Q	7.721	7.1	7.5	ug/L
SURROGATES							
288-79-2	Betrachloro-m-xylene	19		05 - 108		95%	SPK: 67
6751-6U-0	Decachlorobiphenyl	12.8		U7 - 105		90%	SPK: 67

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >65% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	HB/11/17
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	HB/11/17
Client Sample ID:	PITLK-PRHH7806.D	SDG No.:	5 1U22
Lab Sample ID:	I.TLK-PRHH7806.D	Matrix:	Water
Analytical Method:	SW2H20A	% Moisture:	1HH Decanted:
Sample Wt/Vol:	1HHH Bnits: mL	Final Vol:	1HHHH uL
Soil Aliquot Vol:	uL	zest:	PCT
Extraction zype:		Injection Volume :	
GPC Factor :	1.0 P5 :		

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
PRHH7806.D	1		HB/11/17	PRHB1117

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
107U6-11-0	Aroclor-1H17	H1	B	HH97	H1	H8	ug/L
111H6-02-0	Aroclor-1001	H1	B	H1	H1	H8	ug/L
11161-17-8	Aroclor-1030	H1	B	H1	H1	H8	ug/L
83679-01-9	Aroclor-1060	H1	B	HH29	H1	H8	ug/L
107U0-09-7	Aroclor-1062	H1	B	H1	H1	H8	ug/L
11H9U-79-1	Aroclor-1086	H1	B	HH66	H1	H8	ug/L
11H97-20-8	Aroclor-107H	H1	B	HH21	H1	H8	ug/L
SURROGATES							
2UU-H9-2	zetrachloro-m-xylene	19.7		38 - 13U		92%	SPK: 0H
0H81-06-3	Decachlorobiphenyl	0H0		6H- 138		1H1%	SPK: 0H

Comments:

B = Not Detected
LO4 = Limit of 4 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >08% difference for detected concentrations between the two GC columns
4 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 4 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H2/18/17
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H2/18/17
Client Sample ID:	PITLK-PRHH7810.D	SDG No.:	z 1866
Lab Sample ID:	I.TLK-PRHH7810.D	Matrix:	Water
Analytical Method:	SW6H60A	% Moisture:	1HH Decanted:
Sample Wt/Vol:	1HHH Qnits: mL	Final Vol:	1HHHH uL
Soil Aliquot Vol:	uL	Best:	PCT
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/3 c Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PRHH7810.D	1		H2/18/17	prH20H17

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1078U-11-0	Aroclor-1H17	H1	Q	HH97	H1	H5	ug/L
111HU-06-0	Aroclor-1001	H1	Q	H1	H1	H5	ug/L
111U1-17-5	Aroclor-1020	H1	Q	H1	H1	H5	ug/L
52U79-01-9	Aroclor-10U0	H1	Q	HH69	H1	H5	ug/L
10780-09-7	Aroclor-10U6	H1	Q	H1	H1	H5	ug/L
11H98-79-1	Aroclor-105U	H1	Q	HHUU	H1	H5	ug/L
11H97-60-5	Aroclor-107H	H1	Q	HH61	H1	H5	ug/L
SURROGATES							
688-H9-6	Betrachloro-m-xylene	0U2		25 - 128		100%	SPK: 0H
0H51-0U-2	Decachlorobiphenyl	00.5		UH- 125		112%	SPK: 0H

Comments:

Q = Not Detected
LO3 = Limit of 3 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >05% difference for detected concentrations between the two GC columns
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 3 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H2/18/17
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H2/18/17
Client Sample ID:	PITLK-PRHH7800.D	SDG No.:	z 1866
Lab Sample ID:	I.TLK-PRHH7800.D	Matrix:	Water
Analytical Method:	SW6H60A	% Moisture:	1HH Decanted:
Sample Wt/Vol:	1HHH Qnits: mL	Final Vol:	1HHHH uL
Soil Aliquot Vol:	uL	Best:	PCT
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/3 c Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PRHH7800.D	1		H2/18/17	prH20H17

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1078U-11-0	Aroclor-1H17	H1	Q	HH97	H1	H5	ug/L
111HU-06-0	Aroclor-1001	H1	Q	H1	H1	H5	ug/L
111U1-17-5	Aroclor-1020	H1	Q	H1	H1	H5	ug/L
52U79-01-9	Aroclor-10U0	H1	Q	HH69	H1	H5	ug/L
10780-09-7	Aroclor-10U6	H1	Q	H1	H1	H5	ug/L
11H98-79-1	Aroclor-105U	H1	Q	HHUU	H1	H5	ug/L
11H97-60-5	Aroclor-107H	H1	Q	HH61	H1	H5	ug/L
SURROGATES							
688-H9-6	Betrachloro-m-xylene	15.6		25 - 128		89%	SPK: 0H
0H51-0U-2	Decachlorobiphenyl	17.U		UH- 125		60%	SPK: 0H

Comments:

Q = Not Detected
LO3 = Limit of 3 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >05% difference for detected concentrations between the two GC columns
3 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 3 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-978TS	SDG No.:	U1zHH
Lab Sample ID:	PTHH-978TS	Matrix:	S0 IL
Analytical Method:	SWH-8H7A	% Moisture:	8 Decanted:
Sample Wt/Vol:	38 Bnits: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	5est:	PCT
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/6 c Tatch:	Dilution:	Prep Date	Date Analy2ed	Prep Tatch ID
P6 88z819.D	1	83/14/14 8H:11	83/14/14 1Q17	PTHH-978

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
174z=-11-7	Aroclor-1814	zHH		3.3	3.3	1z	ug/*g
1118=-7H-7	Aroclor-1771	3.3	B	3.3	3.3	1z	ug/*g
111=1-14-Q	Aroclor-1737	3.3	B	3.3	3.3	1z	ug/*g
Q3=49-71-9	Aroclor-17=7	3.3	B	3.3	3.3	1z	ug/*g
174z7-79-4	Aroclor-17=H	3.3	B	3.3	3.3	1z	ug/*g
1189z-49-1	Aroclor-17Q=	3.3	B	1.Q	3.3	1z	ug/*g
11894-H7-Q	Aroclor-1748	z=.Q		3.3	3.3	1z	ug/*g
SURROGATES							
H-zz-89-H	5etrachloro-m-xylene	1HH		18 - 144		9=%	SPK: 78
78Q1-7=-3	Decachlorobiphenyl	1HH		48 - 17Q		9=%	SPK: 78

Comments:

B J Not Detected
L0 6 J Limit ok 6 uantitation
MDL J Method Detection Limit
L0 D J Limit ok Detection
E J Value Exceeds Calibration Range
P J Indicates >7Q% dikkerence kor detected concentrations between the two GC columns
6 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

OJ Estimated Value
T J Analyte Found in Associated Method Tlan*
N J Presumptive Evidence ok a Compound
f J Values outside ok 6 C limits
D J Dilution
S J Indicates estimated value where valid kive-point calibration was not perkormed prior to analyte detection in sample.
() J Laboratory InUouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-978TS	SDG No.:	U1QHH
Lab Sample ID:	PTHH-978TS	Matrix:	Water
Analytical Method:	SWH-0H-6A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 z nits: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	5est:	PCT
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/2 c Tatch:	Dilution:	Prep Date	Date Analy3ed	Prep Tatch ID
PR00BQ17.D	1	04/1Q/1B 10:78	04/1Q/1B 1B:69	PTHH-978

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
16BQ8-11-6	Aroclor-101B	6.7		0.09B	0.1	0.7	ug/L
11108-6H-6	Aroclor-1661	0.1	z	0.1	0.1	0.7	ug/L
11181-1B-7	Aroclor-1646	0.1	z	0.1	0.1	0.7	ug/L
748B9-61-9	Aroclor-1686	0.1	z	0.0H-9	0.1	0.7	ug/L
16BQ6-69-B	Aroclor-168H	0.1	z	0.1	0.1	0.7	ug/L
1109Q-B9-1	Aroclor-1678	0.1	z	0.088	0.1	0.7	ug/L
1109B-H6-7	Aroclor-16B0	6.4		0.0H1	0.1	0.7	ug/L
SURROGATES							
HQQ-09-H	5etrachloro-m-xylene	60.6		47 - 14Q		101%	SPK: 60
6071-68-4	Decachlorobiphenyl	60.9		80 - 147		108%	SPK: 60

Comments:

z = Not Detected
LO2 = Limit of 2 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >67% difference for detected concentrations between the two GC columns
2 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 2 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-978TSD	SDG No.:	U1QHH
Lab Sample ID:	PTHH-978TSD	Matrix:	Water
Analytical Method:	SWH0H6A	% Moisture:	100 Decanted:
Sample Wt/Vol:	1000 z nits: mL	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	5est:	PCT
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/2 c Tatch:	Dilution:	Prep Date	Date Analy3ed	Prep Tatch ID
PR00BQ1B.D	1	04/1Q/1B 10:78	04/1Q/1B 1B:84	PTHH-978

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
16BQ8-11-6	Aroclor-101B	6.7		0.09B	0.1	0.7	ug/L
11108-6H-6	Aroclor-1661	0.1	z	0.1	0.1	0.7	ug/L
11181-1B-7	Aroclor-1646	0.1	z	0.1	0.1	0.7	ug/L
748B9-61-9	Aroclor-1686	0.1	z	0.0H9	0.1	0.7	ug/L
16BQ6-69-B	Aroclor-168H	0.1	z	0.1	0.1	0.7	ug/L
1109Q-B9-1	Aroclor-1678	0.1	z	0.088	0.1	0.7	ug/L
1109B-H6-7	Aroclor-16B0	6.4		0.0H1	0.1	0.7	ug/L
SURROGATES							
HQQ-09-H	5etrachloro-m-xylene	60.7		47 - 14Q		104%	SPK: 60
6071-68-4	Decachlorobiphenyl	61.Q		80 - 147		109%	SPK: 60

Comments:

z = Not Detected
LO2 = Limit of 2 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >67% difference for detected concentrations between the two GC columns
2 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 2 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	82/15/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	82/16/13
Client Sample ID:	SB-5(0-9)MS	SDG No.:	H1700
Lab Sample ID:	H1700-85MS	Matrix:	S4 IL
Analytical Method:	SW0805A	% Moisture:	13.7 Decanted:
Sample Wt/Vol:	28.83 Units: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Oc Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
PO88785z.D	1	82/13/13 80:11	82/13/13 13:z6	PB00958

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
15376-11-5	Aroclor-1813	118		6	6	58.6	ug/fg
11186-50-5	Aroclor-1551	6	U	6	6	58.6	ug/fg
11161-13-z	Aroclor-1525	6	U	6	6	58.6	ug/fg
z2639-51-9	Aroclor-1565	6	U	6	6	58.6	ug/fg
15375-59-3	Aroclor-1560	6	U	6	6	58.6	ug/fg
11897-39-1	Aroclor-15z6	6	U	1.0	6	58.6	ug/fg
11893-05-z	Aroclor-1538	93.6		6	6	58.6	ug/fg
SURROGATES							
077-89-0	Tetrachloro-m-xylene	19.z		18 - 133		90%	SPK: 58
58z1-56-2	Decachlorobiphenyl	17.2		38 - 15z		03%	SPK: 58

Comments:

U + Not Detected
L4 O + Limit ok Ouantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =5z% dikkerence kor detected concentrations bet* een the t* o GC columns
O + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence oka Compound
J + Values outside ok OC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	82/15/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	82/16/13
Client Sample ID:	SB-5(0-9)MSD	SDG No.:	H1700
Lab Sample ID:	H1700-85MSD	Matrix:	S4 IL
Analytical Method:	SW0805A	% Moisture:	13.7 Decanted:
Sample Wt/Vol:	28.82 z nits: g	Final Vol:	18888 uL
Soil Aliquot Vol:	uL	Uest:	PCB
Extraction Uype:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Oc Batch:	Dilution:	Prep Date	Date AnalyQed	Prep Batch ID
PO887853.D	1	82/13/13 80:11	82/13/13 17:80	PB00958

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
15376-11-5	Aroclor-1813	118		6	6	58.6	ug/Tg
11186-50-5	Aroclor-1551	6	z	6	6	58.6	ug/Tg
11161-13-f	Aroclor-1525	6	z	6	6	58.6	ug/Tg
f2639-51-9	Aroclor-1565	6	z	6	6	58.6	ug/Tg
15375-59-3	Aroclor-1560	6	z	6	6	58.6	ug/Tg
11897-39-1	Aroclor-15f6	6	z	1.0	6	58.6	ug/Tg
11893-05-f	Aroclor-1538	188		6	6	58.6	ug/Tg
SURROGATES							
077-89-0	Uetrachloro-m-xylene	58.9		18 - 133		18f%	SPK: 58
58f1-56-2	Decachlorobiphenyl	10.6		38 - 15f		95%	SPK: 58

Comments:

z + Not Detected
L4 O + Limit ok Ouantitation
MDL + Method Detection Limit
L4 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =5f% dikkerence kor detected concentrations bet* een the t* o GC columns
O + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method BlanT
N + Presumptive Evidence oka Compound
J + Values outside ok OC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-06	**TW-1**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-07	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-08	**TW-4**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-09	**TW-5**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	

SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/10/14
Client Sample ID:	SB-15(-90	SDG No.:	) 1H((
Lab Sample ID:	) 1H((-71	Matrix:	S2 IL
Analytical Method:	(718B DR2	% Moisture:	13.8 Decanted:
Sample Wt/Vol:	37.7H Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P) :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE71877QD	1	73/18/14 16:17	73/14/14 67:16	PB((919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR2	DR2	6191		941	941	1967	ug/f g
SURROGATES							
14O14-36-3	Tetracosane-d87	14.H		3H- 137		(O%	SPK: 67

Comments:

U + Not Detected
L2 Q + Limit ok Quantitation
MDL + Method Detection Limit
L2 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =68% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
50+ Laboratory In) ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	86/15/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	86/1O/14
Client Sample ID:	SB-5(0-9)	SDG No.:	H1700
Lab Sample ID:	H1700-85	Matrix:	S3 IL
Analytical Method:	0812B DR3	% Moisture:	14.7 Decanted:
Sample Wt/Vol:	68.84 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE812887.D	1	86/12/14 15:18	86/14/14 51:21	PB00919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR3	DR3	5912		990	1888	5888	ug/f g
SURROGATES							
14OI4-65-6	Tetracosane-d28	17		67 - 168		02%	SPK: 58

Comments:

U + Not Detected
L3 Q + Limit ok Quantitation
MDL + Method Detection Limit
L3 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =52% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	85/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	85/1O/14
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S3 IL
Analytical Method:	) 812B DR3	% Moisture:	9.6 Decanted:
Sample Wt/Vol:	58.81 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE81288) .D	1	85/12/14 16:18	85/14/14 66:6O	PB)) 919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR3	DR3	6409		910	968	1) O8	ug/f g
SURROGATES							
14OI4-56-5	Tetracosane-d28	12.0		50 - 158		0) %	SPK: 68

Comments:

U + Not Detected
L3 Q + Limit ok Quantitation
MDL + Method Detection Limit
L3 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =62% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
(H+ Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	86/14/1O
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	86/15/1O
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S3 IL
Analytical Method:	) 812B DR3	% Moisture:	11.2 Decanted:
Sample Wt/Vol:	68.82 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE812889.D	1	86/12/1O14:18	86/1O/1O44:20	PB)) 919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR3	DR3	6689		958	958	1)) 8	ug/f g
SURROGATES							
1O51O-64-6	Tetracosane-d28	15		60 - 168		08%	SPK: 48

Comments:

U + Not Detected
L3 Q + Limit ok Quantitation
MDL + Method Detection Limit
L3 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =42% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
(H+ Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/1O/14
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	S2 IL
Analytical Method:	8015B DR2	% Moisture:	17.3 Decanted:
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE015010.D	1	03/15/14 16:10	03/14/14 63:30	PB88919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR2	DR2	518O		1010	1010	6010	ug/f g
SURROGATES							
14OI4-36-3	Tetracosane-d50	1Q5		37 - 130		73%	SPK: 60

Comments:

U + Not Detected
L2 Q + Limit ok Quantitation
MDL + Method Detection Limit
L2 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =65% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
() + Laboratory InHouse Limit

QC SUMMARY

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SOIL DIESEL RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: AKRF Engineering, P.C.

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
SB-1(8-9)	84				0
SB-1(8-9)MS	79				0
SB-1(8-9)MSD	77				0
SB-2(8-9)	85				0
SB-3(7-8)	78				0
SB-4(7-8)	70				0
SB-5(9-10)	73				0
PIBLK-FE014998.D	80				0
PIBLK-FE015011.D	87				0
PB88919BL	63				0
PB88919BS	69				0

	QC LIMITS
TETRACOSANE-d50	For Water : 29-130 For Soil : 37-130

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate Diluted Out

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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** AKRF Engineering, P.C.

Lab Code: CHEM **Cas No:** H1788 **SAS No :** H1788 **SDG No:** H1788

Client SampleID : SB-1(8-9)MS **Datafile:** FE015005.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7689	2191	9035	89%		68-131

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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** AKRF Engineering, P.C.

Lab Code: CHEM **Cas No:** H1788 **SAS No :** H1788 **SDG No:** H1788

Client SampleID : SB-1(8-9)MSD **Datafile:** FE015006.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7689	2191	8843	86.5%		68-131

MS/MSD % Recovery RPD : 2.8

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SOIL DIESEL RANGE ORGANICS LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RI

Lab Name: Chemtech **Client:** AKRF Engineering, P.C.

Lab Code: CHEM **Cas No:** H1788 **SAS No :** H1788 **SDG No:** H1788

Matrix Spike - EPA Sample No : PB88919BS **Datafile:** FE015002.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
DRO	6662	0	4830	72.5	68-131

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4B

METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88919BL

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG NO.: H1788

Lab File ID: FE015001.D Lab Sample ID: PB88919BL

Instrument ID: fe Date Extracted: 03/16/2016

Matrix: (soil/water) Soil Date Analyzed: 03/16/16

Level: (low/med) low Time Analyzed: 18:32

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB88919BS	PB88919BS	FE015002.D	03/16/16
SB-1(8-9)	H1788-01	FE015004.D	03/16/16
SB-1(8-9)MS	H1788-01MS	FE015005.D	03/16/16
SB-1(8-9)MSD	H1788-01MSD	FE015006.D	03/16/16
SB-2(8-9)	H1788-02	FE015007.D	03/16/16
SB-3(7-8)	H1788-03	FE015008.D	03/16/16
SB-4(7-8)	H1788-04	FE015009.D	03/16/16
SB-5(9-10)	H1788-05	FE015010.D	03/16/16

COMMENTS:

Form IV

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-919TL	SDG No.:	5 1UHH
Lab Sample ID:	PTHH-919TL	Matrix:	S0 IL
Analytical Method:	H718T DR0	% Moisture:	7 Decanted:
Sample Wt/Vol:	37.73 Bnits: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	zest:	Diesel Range 0 rganics
Extraction zype:		Injection Volume :	
GPC Factor :	P5 :		

File ID/6 c Tatch:	Dilution:	Prep Date	Date Analy2ed	Prep Tatch ID
FE718771.D	1	73/18/14 1Q17	73/14/14 1H3Q	PTHH-919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR0	DR0	H38	B	H33	H38	14U7	ug/*g
SURROGATES							
14=14-3Q-3	zetracosane-d87	1Q4		3U- 137		43%	SPK: Q7

Comments:

B J Not Detected
L0 6 J Limit ok6 uantitation
MDL J Method Detection Limit
L0 D J Limit okDetection
E J Value Exceeds Calibration Range
P J Indicates >Q8% dikkerence kor detected concentrations between the two GC columns
6 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

OJ Estimated Value
T J Analyte Found in Associated Method Tlan*
N J Presumptive Evidence oka Compound
f J Values outside ok6 C limits
D J Dilution
S J Indicates estimated value where valid kive-point calibration was not perkormed prior to analyte detection in sample.
() J Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H2/13/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H2/13/13
Client Sample ID:	PITLK-FEHl7998.D	SDG No.:	* 1z88
Lab Sample ID:	I.TLK-FEHl7998.D	Matrix:	Water
Analytical Method:	8Hl0T DR6	% Moisture:	1HH Decanted:
Sample Wt/Vol:	1HHH 5 nits: mL	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Uest:	Diesel Range 6 rganics
Extraction Uype:		Injection Volume :	
GPC Factor :	P* :		

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
FEHl7998.D	1		H2/13/13	HBH21z13

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
DR6	DR6	=0	5	=0	=0	0H	ug/L
SURROGATES							
13713-2=-2	Uetracosane-d0H	13		=9 - 12H		8H%	SPK: =H

Comments:

5 J Not Detected
L6 4 J Limit oB4 uantitation
MDL J Method Detection Limit
L6 D J Limit oBDetection
E J Value Exceeds Calibration Range
P J Indicates >=0% diBerence Bor detected concentrations between the two GC columns
4 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements
k J Estimated Value
T J Analyte Found in Associated Method TlanO
N J Presumptive Evidence oBa Compound
f J Values outside oB4 C limits
D J Dilution
S J Indicates estimated value where valid Bve-point calibration was not perBormed prior to analyte detection in sample.
() J Laboratory In* ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	H6/12/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	H6/12/13
Client Sample ID:	PITLK-FEHl7Hl1.D	SDG No.:	U1288
Lab Sample ID:	I.TLK-FEHl7Hl1.D	Matrix:	Water
Analytical Method:	8Hl7T DR0	% Moisture:	1HH Decanted:
Sample Wt/Vol:	1HHH z nits: mL	Final Vol:	1 mL
Soil Aliquot Vol:	uL	5est:	Diesel Range 0 rganics
Extraction 5ype:		Injection Volume :	
GPC Factor :	PU :		

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
FEHl7Hl1.D	1		H6/12/13	BH61213

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
DR0	DR0	*7	z	*7	*7	7H	ug/L
SURROGATES							
13=13-6*-6	5etracosane-d7H	12.=		*9 - 16H		82%	SPK: *H

Comments:

z J Not Detected
L0 4 J Limit oB4 uantitation
MDL J Method Detection Limit
L0 D J Limit oBDetection
E J Value Exceeds Calibration Range
P J Indicates >*7% diBerence Bor detected concentrations between the two GC columns
4 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
T J Analyte Found in Associated Method TlanO
N J Presumptive Evidence oBa Compound
f J Values outside oB4 C limits
D J Dilution
S J Indicates estimated value where valid Bve-point calibration was not perBormed prior to analyte detection in sample.
() J Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-919TS	SDG No.:	5 1UHH
Lab Sample ID:	PTHH-919TS	Matrix:	S0 IL
Analytical Method:	H718T DR0	% Moisture:	7 Decanted:
Sample Wt/Vol:	37.7Q Bnits: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	zest:	Diesel Range 0 rganics
Extraction zype:		Injection Volume :	
GPC Factor :	P5 :		

File ID/6 c Tatch:	Dilution:	Prep Date	Date Analy2ed	Prep Tatch ID
FE71877QD	1	73/18/14 1Q17	73/14/14 19:74	PTHH-919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR0	DR0	=HB7		HB3	HB8	14U7	ug/*g
SURROGATES							
14=14-3Q-3	zetracosane-d87	13.U		3U- 137		49%	SPK: Q7

Comments:

B J Not Detected
L0 6 J Limit ok6 uantitation
MDL J Method Detection Limit
L0 D J Limit okDetection
E J Value Exceeds Calibration Range
P J Indicates >Q8% dikkerence kor detected concentrations between the two GC columns
6 J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

OJ Estimated Value
T J Analyte Found in Associated Method Tlan*
N J Presumptive Evidence oka Compound
f J Values outside ok6 C limits
D J Dilution
S J Indicates estimated value where valid kive-point calibration was not perkormed prior to analyte detection in sample.
() J Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/1O/14
Client Sample ID:	SB-15(-90MS	SDG No.:	) 1H((
Lab Sample ID:	) 1H((-71MS	Matrix:	S2 IL
Analytical Method:	(718B DR2	% Moisture:	13.8 Decanted:
Sample Wt/Vol:	37.7H Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P) :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE718778.D	1	73/18/14 16:17	73/14/14 67:O8	PB((919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR2	DR2	9738		941	941	1967	ug/f g
SURROGATES							
14O14-36-3	Tetracosane-d87	18.(		3H- 137		H9%	SPK: 67

Comments:

U + Not Detected
L2 Q + Limit ok Quantitation
MDL + Method Detection Limit
L2 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =68% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
50+ Laboratory In) ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/10/14
Client Sample ID:	SB-15(-90MSD	SDG No.:	) 1H((
Lab Sample ID:	) 1H((-71MSD	Matrix:	S2 IL
Analytical Method:	(718B DR2	% Moisture:	13.8 Decanted:
Sample Wt/Vol:	37.7H Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P) :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FE718774.D	1	73/18/14 16:17	73/14/14 61:1(	PB((919

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
DR2	DR2	((O3		941	941	1967	ug/f g
SURROGATES							
14O14-36-3	Tetracosane-d87	18.O		3H- 137		HH%	SPK: 67

Comments:

U + Not Detected
L2 Q + Limit ok Quantitation
MDL + Method Detection Limit
L2 D + Limit ok Detection
E + Value Exceeds Calibration Range
P + Indicates =68% dikkerence kor detected concentrations bet* een the t* o GC columns
Q + indicates LCS control criteria did not meet requirements
M + MS/MSD acceptance criteria did not meet requirements

w+ Estimated Value
B + Analyte Found in Associated Method Blanf
N + Presumptive Evidence ok a Compound
J + Values outside ok QC limits
D + Dilution
S + Indicates estimated value * here valid kive-point calibration * as not perkormed prior to analyte detection in sample.
50+ Laboratory In) ouse Limit

CALIBRATION SUMMARY

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DIESEL RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS19X Addition

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Calibration Sequence : fe030316		Test : Diesel Range Organics	
Concentration (PPM)	Area Count	Reference Factor	File ID
1000	467977099	467977	FE014807.D
500	223914547	447829	FE014808.D
200	84996957	424985	FE014809.D
100	41239164	412392	FE014810.D
50	19888474	397769	FE014811.D
AVG RF : 430190	% RSD : 6.507		AVG RT : 14.4284

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DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS19X Addition

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

DataFile: FE014999.D Analyst Name: UA/NP Analyst Date: 03-16-2016

Conc. (PPM)	Area Count	RF	Average RF	%D
500	233858371	467717	430190	8.723

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DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Yhemtech Yr ntSact: A8 KF09

PSr jectID: NR YCYA - PSr or sep PC1dX Appitir n

Lab Yr pe: YHEM Yase Nr .: H1677 CAC Nr .: H1677 CDG Nr .: H1677

DataFile: FE014019.D Analyst Name: UA/NP Analyst Date: 03-16-9012

Conc. (PPM)	Area Count	RF	Average RF	%D
400	931611350	523593	5301d0	6.694

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Analytical Sequence

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **Instrument ID:** FID_E

GC Column: RXI-1MS **ID:** 0.18 **(mm)**

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SUROGATE RT FROM INITIAL CALIBRATION 14.4284

EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	I.BLK01	16 Mar 2016 15:45	FE014998.D	14.410	
50 PPM TRPH STD	50 PPM TRPH STD	16 Mar 2016 17:26	FE014999.D	14.418	
PB88919BL	PB88919BL	16 Mar 2016 18:32	FE015001.D	14.407	
PB88919BS	PB88919BS	16 Mar 2016 19:06	FE015002.D	14.407	
SB-1(8-9)	H1788-01	16 Mar 2016 20:12	FE015004.D	14.407	
SB-1(8-9)MS	H1788-01MS	16 Mar 2016 20:45	FE015005.D	14.407	
SB-1(8-9)MSD	H1788-01MSD	16 Mar 2016 21:18	FE015006.D	14.406	
SB-2(8-9)	H1788-02	16 Mar 2016 21:51	FE015007.D	14.406	
SB-3(7-8)	H1788-03	16 Mar 2016 22:24	FE015008.D	14.404	
SB-4(7-8)	H1788-04	16 Mar 2016 22:57	FE015009.D	14.403	
SB-5(9-10)	H1788-05	16 Mar 2016 23:30	FE015010.D	14.408	
PIBLK02	I.BLK02	17 Mar 2016 00:03	FE015011.D	14.405	
50 PPM TRPH STD	50 PPM TRPH STD	17 Mar 2016 00:36	FE015012.D	14.416	

Column used to flag RT values with an * values outside of QC limits

QC Limits	Lower Limit	Upper Limits
(± 0.10 minutes)	14.3284	14.5284

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			Gasoline Range Organics	8015B			03/21/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			Gasoline Range Organics	8015B			03/21/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			Gasoline Range Organics	8015B			03/21/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			Gasoline Range Organics	8015B			03/21/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			Diesel Range Organics	8015B		03/15/16	03/16/16	
			Gasoline Range Organics	8015B			03/21/16	
			PCB	8082A		03/16/16	03/16/16	
H1788-06	**TW-1**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-07	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	
H1788-08	**TW-4**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	

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LAB CHRONICLE

H1788-09	**TW-5**	**Water**			**03/12/16**			**03/14/16**
			PCB	8082A		03/17/16	03/17/16	

SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/1O/14
Client Sample ID:	SB-15(-90	SDG No.:	) 1H((
Lab Sample ID:	) 1H((-71	Matrix:	S2 IL
Analytical Method:	(718B GR2	% Moisture:	13.8 Decanted:
Sample Wt/Vol:	8.71 Units: g	Final Vol:	8 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P) :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FB774676.D	1		73/61/14 16:71	FB736114

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR2	GR2	64	U	1O	64	86	ug/f g
SURROGATES							
9(-7(-(	Alpha,Alpha,Alpha-TriJluoroto 1HO			87 - 187		(H%	SPK: 67

Comments:

U k Not Detected
L2 Q k Limit oJ Quantitation
MDL k Method Detection Limit
L2 D k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =68% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
B k Analyte Found in Associated Method Blanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration
* as not perJormed prior to analyte detection in sample.
50k Laboratory In) ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	86/15/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	86/1O/14
Client Sample ID:	SB-5(0-9)	SDG No.:	H1700
Lab Sample ID:	H1700-85	Matrix:	S3 IL
Analytical Method:	0812B GR3	% Moisture:	14.7 Decanted:
Sample Wt/Vol:	2.86 Units: g	Final Vol:	2 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FB884586.D	1		86/51/14 15:65	FB865114

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR3	GR3	57	U	1O	57	2O	ug/f g
SURROGATES							
90-80-0	Alpha,Alpha,Alpha-TriJluoroto	14.9		28 - 128		02%	SPK: 58

Comments:

U k Not Detected
L3 Q k Limit oJ Quantitation
MDL k Method Detection Limit
L3 D k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =52% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
B k Analyte Found in Associated Method Blanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration
* as not perJormed prior to analyte detection in sample.
() k Laboratory InHouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	85/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	85/1O/14
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S3 IL
Analytical Method:	) 812B GR3	% Moisture:	9.6 Decanted:
Sample Wt/Vol:	2.8O Units: g	Final Vol:	2 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FB88468QD	1		85/61/14 15:8O	FB856114

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR3	GR3	6Q2	U	15	6Q2	O9	ug/f g
SURROGATES							
9) -8) -)	Alpha,Alpha,Alpha-TriJluoroto	15.0		28 - 128		4) %	SPK: 68

Comments:

U k Not Detected
L3 Q k Limit oJ Quantitation
MDL k Method Detection Limit
L3 D k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =62% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
B k Analyte Found in Associated Method Blanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration
* as not perJormed prior to analyte detection in sample.
(Hk Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	86/14/1O
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	86/15/1O
Client Sample ID:	SB-5(0-) H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -85	Matrix:	S3 IL
Analytical Method:	) 812B GR3	% Moisture:	11.2 Decanted:
Sample Wt/Vol:	2.81 Units: g	Final Vol:	2 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range 3 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FB88O482.D	1		86/41/1O16:6O	FB86411O

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR3	GR3	42.2	U	15	42.2	21	ug/f g
SURROGATES							
9) -8) -)	Alpha,Alpha,Alpha-TriJluoroto	15		28 - 128		08%	SPK: 48

Comments:

U k Not Detected
L3 Q k Limit oJ Quantitation
MDL k Method Detection Limit
L3 D k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =42% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
B k Analyte Found in Associated Method Blanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration
* as not perJormed prior to analyte detection in sample.
(Hk Laboratory In7 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/16/14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/1O/14
Client Sample ID:	SB-5(9-10)	SDG No.:	H1788
Lab Sample ID:	H1788-05	Matrix:	S2 IL
Analytical Method:	8015B GR2	% Moisture:	17.3 Decanted:
Sample Wt/Vol:	5.03 Units: g	Final Vol:	5 mL
Soil Aliquot Vol:	uL	Test:	Gasoline Range 2 rganics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FB004604.D	1		03/61/14 1O39	FB036114

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR2	GR2	67	U	1O	67	5O	ug/f g
SURROGATES							
98-08-8	Alpha,Alpha,Alpha-TriJluoroto	15		50 - 150		75%	SPK: 60

Comments:

U k Not Detected
L2 Q k Limit oJ Quantitation
MDL k Method Detection Limit
L2 D k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =65% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
B k Analyte Found in Associated Method Blanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration
* as not perJormed prior to analyte detection in sample.
() k Laboratory InHouse Limit

QC SUMMARY

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SOIL GASOLINE RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: AKRF Engineering, P.C.

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

EPA SAMPLE NO.	S1 AAA-TFT	S2	S3	S4	TOT OUT
VBF0321S1	79				0
BSF0321S1	98				0
SB-1(8-9)	87				0
SB-2(8-9)	85				0
SB-3(7-8)	68				0
SB-4(7-8)	70				0
SB-5(9-10)	75				0
W170TH-SB-13(0.5-1.0)MS	86				0
W170TH-SB-13(0.5-1.0)MSD	83				0

	QC LIMITS
AAA-TFT	For Water : 50-150 For Soil : 50-150

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate Diluted Out

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SOIL ANSOLIGE RNGAE ORANGICS MNTRIX SPIKE/MNTRIX SPIKE DUPLICNTE RECOVERY

Lab Game: Chemtech **Client:** AKRF Engineering, P.C.

Lab Code: CHEM **Cas Go:** H1788 **SNS Go :** H1788 **SDA Go:** H1788

Client SampleID : W170TH-SB-13(0.5-1.0)MS **Datafile:** FB006210.D

COMPOUGD	SPIKE NDDED ug/kg	SNMPLE COGCEGTRNTIOG ug/kg	MS/MSD COGCEGTRNTIOG ug/kg	% REC	Qual	QC LIMITS
GRO	211	0	189	89.6%		50-150

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SOIL ANSOLIGE RNGAE ORANGICS MNTRIX SPIKE/MNTRIX SPIKE DUPLICNTE RECOVERY

Lab Game: Chemtech **Client:** AKRF Engineering, P.C.

Lab Code: CHEM **Cas Go:** H1788 **SNS Go :** H1788 **SDA Go:** H1788

Client SampleID : W170TH-SB-13(0.5-1.0)MSD **Datafile:** FB006211.D

COMPOUGD	SPIKE NDDED ug/kg	SNMPLE COGCEGTRNTIOG ug/kg	MS/MSD COGCEGTRNTIOG ug/kg	% REC	Qual	QC LIMITS
GRO	211	0	182	86.3%		50-150

MS/MSD % Recovery RPD : 3.8

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SOIL DESOLIRA NERDA ONDERIGS LECONEBONT GORBNOL SYIP A/LECONEBONT GORBNOL SYIP A KUYLIGEB/

Lab Rame: Chemtech **Glient:** AKRF Engineering, P.C.

Lab Gode: CHEM **Gas Ro:** H1788 **SES Ro :** H1788 **SKD Ro:** H1788

Matrix Spike - AYE Sample Ro : BSF0321S1 **Katafile:** FB006201.D

GOMYOURK	SYIP A EKKAK ug/kg	GORGARBNEBIOR ug/kg	LGS/LGSK GORGARBNEBIOR ug/kg	% NAG	QG LIMIBS
GRO	180	15.72	169	85.2	50-150

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METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBF0321S1

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM Case No.: H1788

SAS No.: H1788 SDG NO.: H1788

Lab File ID: FB006200.D

Lab Sample ID: VBF0321S1

Date Analyzed: 03/21/16

Time Analyzed: 10:37

GC Column: RTX-502.2 ID: 0.53 (mm)

Heated Purge: (Y/N) Y

Instrument ID: FB

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
BSF0321S1	BSF0321S1	FB006201.D	03/21/16
SB-1(8-9)	H1788-01	FB006202.D	03/21/16
SB-2(8-9)	H1788-02	FB006203.D	03/21/16
SB-3(7-8)	H1788-03	FB006204.D	03/21/16
SB-4(7-8)	H1788-04	FB006205.D	03/21/16
SB-5(9-10)	H1788-05	FB006206.D	03/21/16
W170TH-SB-13(0.5-1.0)MS	H1776-04MS	FB006210.D	03/21/16
W170TH-SB-13(0.5-1.0)MSD	H1776-04MSD	FB006211.D	03/21/16

COMMENTS:

QC SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VTFH781S1	SDG No.:	U1B00
Lab Sample ID:	VTFH781S1	Matrix:	S2 IL
Analytical Method:	0H16T GR2	% Moisture:	H Decanted:
Sample Wt/Vol:	6.H8 z nits: g	Final Vol:	6 mL
Soil Aliquot Vol:	uL	5est:	Gasoline Range 2 rganics
Extraction 5ype:		Injection Volume :	
GPC Factor :	PU :		

File ID/3 c Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
FTHHQ8HHD	1		H7/81/1Q1H7B	FTH7811Q

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR2	GR2	88.6	z	18	88.6	=6	ug/*g
SURROGATES							
90-H0-0	Alpha,Alpha,Alpha-5rifluoroto	16.B		6H- 16H		B9%	SPK: 8H

Comments:

z k Not Detected
L2 3 k Limit of 3 uantitation
MDL k Method Detection Limit
L2 D k Limit of Detection
E k Value Exceeds Calibration Range
P k Indicates >86% difference for detected concentrations between the two GC columns
3 k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

Ok Estimated Value
T k Analyte Found in Associated Method Tlan*
N k Presumptive Evidence of a Compound
J k Values outside of 3 C limits
D k Dilution
S k Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() k Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	TSFH781S1	SDG No.:	5 1U00
Lab Sample ID:	TSFH781S1	Matrix:	S2 IL
Analytical Method:	0HI6T GR2	% Moisture:	H Decanted:
Sample Wt/Vol:	6.HI Bnits: g	Final Vol:	6 mL
Soil Aliquot Vol:	uL	zest:	Gasoline Range 2 rganics
Extraction zype:		Injection Volume :	
GPC Factor :	P5 :		

File ID/3 c Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
FTHHQ8HI.D	1		H7/81/1Q11:H9	FTH7811Q

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GR2	GR2	1Q9		18	88.6	=6	ug/*g
SURROGATES							
90-H0-0	Alpha,Alpha,Alpha-zrifluoroto	19.Q		6H- 16H		90%	SPK: 8H

Comments:

B k Not Detected
L2 3 k Limit of 3 uantitation
MDL k Method Detection Limit
L2 D k Limit of Detection
E k Value Exceeds Calibration Range
P k Indicates >86% difference for detected concentrations between the two GC columns
3 k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

Ok Estimated Value
T k Analyte Found in Associated Method Tlan*
N k Presumptive Evidence of a Compound
J k Values outside of 3 C limits
D k Dilution
S k Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() k Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	5H/15/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	5H/11/13
Client Sample ID:	W1B5(0 -S) -1H75.8-1.52MS	SDG No.:	0 1B44
Lab Sample ID:	0 1BB3-56MS	Matrix:	SOIL
Analytical Method:	4518) GRO	% Moisture:	16.B Decanted:
Sample Wt/Vol:	8 Tnits: g	Final Vol:	8 mL
Soil Aliquot Vol:	uL	(est:	Gasoline Range Organics
Extraction (ype:		Injection Volume :	
GPC Factor :	P0 :		

File ID/Qc) atch:	Dilution:	Prep Date	Date Analyzed	Prep) atch ID
F) 553U15.D	1		5H/U1/13 1B:H1	F) 5HU113

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GRO	GRO	149		16	U3.8	8H	ug/f g
SURROGATES							
94-54-4	Alpha,Alpha,Alpha-(riJluoroto 1B.1			85 - 185		43%	SPK: U5

Comments:

T k Not Detected
LOQ k Limit oJ Quantitation
MDL k Method Detection Limit
LOD k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =U8% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
) k Analyte Found in Associated Method) lanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration * as not perJormed prior to analyte detection in sample.
72k Laboratory In0 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	5H/15/13
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	5H/11/13
Client Sample ID:	W1B5(0 -S) -1H75.8-1.52MSD	SDG No.:	0 1B44
Lab Sample ID:	0 1BB3-56MSD	Matrix:	SOIL
Analytical Method:	4518) GRO	% Moisture:	16.B Decanted:
Sample Wt/Vol:	8 Tnits: g	Final Vol:	8 mL
Soil Aliquot Vol:	uL	(est:	Gasoline Range Organics
Extraction (ype:		Injection Volume :	
GPC Factor :	P0 :		

File ID/Qc) atch:	Dilution:	Prep Date	Date Analyzed	Prep) atch ID
F) 553U11.D	1		5H/U1/13 14:5U	F) 5HU113

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
TARGETS							
GRO	GRO	14U		16	U3.8	8H	ug/f g
SURROGATES							
94-54-4	Alpha,Alpha,Alpha-(riJluoroto	13.B		85 - 185		4H%	SPK: U5

Comments:

T k Not Detected
LOQ k Limit oJ Quantitation
MDL k Method Detection Limit
LOD k Limit oJ Detection
E k Value Exceeds Calibration Range
P k Indicates =U8% diJJerence Jor detected concentrations bet* een the t* o GC columns
Q k indicates LCS control criteria did not meet requirements
M k MS/MSD acceptance criteria did not meet requirements

wk Estimated Value
) k Analyte Found in Associated Method) lanf
N k Presumptive Evidence oJ a Compound
+ k Values outside oJ QC limits
D k Dilution
S k Indicates estimated value * here valid Jive-point calibration * as not perJormed prior to analyte detection in sample.
72k Laboratory In0 ouse Limit

CALIBRATION SUMMARY

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GASOLINE RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS19X Addition

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

Calibration Sequence : FB031116		Test : Gasoline Range Organics	
Concentration (PPB)	Area Count	Reference Factor	File ID
45	660027	14667	FB006040.D
90	1296452	14405	FB006041.D
180	2693004	14961	FB006042.D
450	6977305	15505	FB006043.D
900	14127410	15697	FB006044.D
AVG RF : 15047	% RSD : 3.634		AVG RT : 9.2016

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GASOLINE RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

20 PPB GRO STD

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS19X Addition

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

DataFile: FB006199.D Analyst Name: UA/IZ Analyst Date: 03-21-2016

Conc. (PPB)	Area Count	RF	Average RF	%D
180	2487273	13818	15047	8.168

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GASOLINE RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

20 PPB GRO STD

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS19X Addition

Lab Code: CHEM Case No.: H1788 SAS No.: H1788 SDG No.: H1788

DataFile: FB006207.D Analyst Name: UA/IZ Analyst Date: 03-21-2016

Conc. (PPB)	Area Count	RF	Average RF	%D
180	2594363	14413	15047	4.213

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GASOLINE RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

20 PPB GRO STD

Lab Name: Chemtech Contract: AKRF02

ProjectID: NYCSCA - Proposed PS79X Addition

Lab Code: C1 EM Case No.: 1 7H88 SAS No.: 1 7H88 SDG No.: 1 7H88

DataFile: FB006272.D Analyst Name: UA/IZ Analyst Date: 03-27-2076

Conc. (PPB)	Area Count	RF	Average RF	%D
780	25059H0	73922	7504H	H4HH

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Analytical Sequence

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **Instrument ID:** FID_B

GC Column: RTX-502.2 **ID:** 0.53 **(mm)**

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SUROGATE RT FROM INITIAL CALIBRATION 9.2016

EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
06 PPB GRO STD	06 PPB GRO STD	01 Mar 0612 9:40	FB662199.D	9.194	
VBF6501S1	VBF6501S1	01 Mar 0612 16:57	FB662066.D	9.192	
BSF6501S1	BSF6501S1	01 Mar 0612 11:69	FB662061.D	9.197	
SB-1(8-9)	H1788-61	01 Mar 0612 10:61	FB662060.D	9.199	
SB-0(8-9)	H1788-60	01 Mar 0612 10:50	FB662065.D	9.198	
SB-5(7-8)	H1788-65	01 Mar 0612 15:63	FB662063.D	9.199	
SB-3(7-8)	H1788-63	01 Mar 0612 15:52	FB662064.D	9.066	
SB-4(9-16)	H1788-64	01 Mar 0612 13:59	FB662062.D	9.199	
06 PPB GRO STD	06 PPB GRO STD	01 Mar 0612 14:42	FB662067.D	9.199	
W176TH-SB-15(6.4-1.6)MS	H1772-63MS	01 Mar 0612 17:51	FB662016.D	9.199	
W176TH-SB-15(6.4-1.6)MSD	H1772-63MSD	01 Mar 0612 18:60	FB662011.D	9.199	
06 PPB GRO STD	06 PPB GRO STD	01 Mar 0612 18:53	FB662010.D	9.199	

Column used to flag RT values with an * values outside of QC limits

QC Limits	Lower Limit	Upper Limits
(± 6.16 minutes)	9.1612	9.5612

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Mercury	7471A		03/16/16	03/17/16	
			Metals ICP-TAL	6010B		03/17/16	03/17/16	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16**			**03/14/16**
			Mercury	7471A		03/16/16	03/17/16	
			Metals ICP-TAL	6010B		03/17/16	03/17/16	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Mercury	7471A		03/16/16	03/17/16	
			Metals ICP-TAL	6010B		03/17/16	03/17/16	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16**			**03/14/16**
			Mercury	7471A		03/16/16	03/17/16	
			Metals ICP-TAL	6010B		03/17/16	03/17/16	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16**			**03/14/16**
			Mercury	7471A		03/16/16	03/17/16	
			Metals ICP-TAL	6010B		03/17/16	03/17/16	
H1788-06	**TW-1**	**WATER**			**03/12/16**			**03/14/16**
			Mercury	7470A		03/15/16	03/16/16	
			Metals ICP-TAL	6010C		03/18/16	03/18/16	
H1788-07	**TW-2**	**WATER**			**03/12/16**			**03/14/16**
			Mercury	7470A		03/15/16	03/16/16	
			Metals ICP-TAL	6010C		03/18/16	03/18/16	
H1788-08	**TW-4**	**WATER**			**03/12/16**			**03/14/16**
			Mercury	7470A		03/15/16	03/16/16	
			Metals ICP-TAL	6010C		03/18/16	03/18/16	
H1788-09	**TW-5**	**WATER**			**03/12/16**			**03/14/16**
			Mercury	7470A		03/15/16	03/16/16	

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LAB CHRONICLE

Metals ICP-TAL	6010C	03/18/16	03/18/16

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Hit Summary Sheet
SW-846

SDG No.: H1788 **Order ID:** H1788

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**SB-1(8-9)**								
H1788-01	SB-1(8-9)	SOIL	Aluminum	4,190.000		0.806	1.2	4.8	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Arsenic	2.210		0.24	0.24	0.959	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Barium	28.300		0.384	1.2	4.8	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Beryllium	0.271	J	0.058	0.072	0.288	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Calcium	763.000		1.03	24	95.9	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Chromium	12.300		0.12	0.12	0.48	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Cobalt	7.140		0.36	0.36	1.44	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Copper	9.150		0.24	0.24	0.959	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Iron	11,500.000		1.2	1.2	4.8	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Lead	4.070		0.115	0.24	0.576	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Magnesium	1,010.000		4.39	24	95.9	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Manganese	116.000		0.182	0.24	0.959	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Nickel	13.400		0.441	0.48	1.92	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Potassium	455.000		3.36	24	95.9	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Sodium	62.000	J	2.42	24	95.9	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Vanadium	12.000		0.48	0.48	1.92	mg/Kg
H1788-01	SB-1(8-9)	SOIL	Zinc	39.400		0.48	0.48	1.92	mg/Kg
Client ID :	**SB-2(8-9)**								
H1788-02	SB-2(8-9)	SOIL	Aluminum	10,100.000		0.844	1.26	5.02	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Arsenic	3.950		0.251	0.251	1	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Barium	95.100		0.402	1.26	5.02	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Beryllium	0.452		0.06	0.075	0.301	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Calcium	1,930.000		1.07	25.1	100	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Chromium	23.000		0.126	0.126	0.502	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Cobalt	6.210		0.377	0.377	1.51	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Copper	11.500		0.251	0.251	1	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Iron	18,800.000		1.26	1.26	5.02	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Lead	8.030		0.121	0.251	0.603	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Magnesium	1,680.000		4.6	25.1	100	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Manganese	50.400		0.191	0.251	1	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Mercury	0.012	J	0.008	0.008	0.015	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Nickel	18.300		0.462	0.502	2.01	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Potassium	385.000		3.52	25.1	100	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Silver	0.392	J	0.126	0.126	0.502	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Sodium	215.000		2.53	25.1	100	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Vanadium	25.200		0.502	0.502	2.01	mg/Kg
H1788-02	SB-2(8-9)	SOIL	Zinc	91.400		0.502	0.502	2.01	mg/Kg
Client ID :	**SB-3(7-8)**								

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Hit Summary Sheet
SW-846

SDG No.: H1788 **Order ID:** H1788

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
H1788-03	SB-3(7-8)	SOIL	Aluminum	7,000.000		0.765	1.14	4.55	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Arsenic	2.190		0.228	0.228	0.91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Barium	39.900		0.364	1.14	4.55	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Beryllium	0.278		0.055	0.068	0.273	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Calcium	877.000		0.974	22.8	91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Chromium	18.100		0.114	0.114	0.455	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Cobalt	8.920		0.341	0.341	1.37	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Copper	15.900		0.228	0.228	0.91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Iron	10,400.000		1.14	1.14	4.55	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Lead	3.530		0.109	0.228	0.546	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Magnesium	1,900.000		4.17	22.8	91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Manganese	168.000		0.173	0.228	0.91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Nickel	17.500		0.419	0.455	1.82	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Potassium	584.000		3.19	22.8	91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Sodium	97.800		2.29	22.8	91	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Vanadium	16.300		0.455	0.455	1.82	mg/Kg
H1788-03	SB-3(7-8)	SOIL	Zinc	30.700		0.455	0.455	1.82	mg/Kg
Client ID :	**SB-4(7-8)**								
H1788-04	SB-4(7-8)	SOIL	Aluminum	3,050.000		0.825	1.23	4.91	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Arsenic	2.460		0.246	0.246	0.983	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Barium	23.700		0.393	1.23	4.91	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Beryllium	0.227	J	0.059	0.074	0.295	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Calcium	1,380.000		1.05	24.6	98.3	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Chromium	7.230		0.123	0.123	0.491	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Cobalt	4.360		0.368	0.368	1.47	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Copper	5.740		0.246	0.246	0.983	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Iron	9,270.000		1.23	1.23	4.91	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Lead	2.570		0.118	0.246	0.59	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Magnesium	951.000		4.5	24.6	98.3	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Manganese	98.300		0.187	0.246	0.983	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Nickel	8.840		0.452	0.491	1.97	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Potassium	801.000		3.44	24.6	98.3	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Sodium	135.000		2.48	24.6	98.3	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Vanadium	8.990		0.491	0.491	1.97	mg/Kg
H1788-04	SB-4(7-8)	SOIL	Zinc	39.800		0.491	0.491	1.97	mg/Kg
Client ID :	**SB-5(9-10)**								
H1788-05	SB-5(9-10)	SOIL	Aluminum	12,700.000		0.843	1.25	5.02	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Arsenic	1.720		0.251	0.251	1	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Barium	70.400		0.401	1.25	5.02	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Beryllium	0.488		0.06	0.075	0.301	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Calcium	1,210.000		1.07	25.1	100	mg/Kg

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Hit Summary Sheet
SW-846

SDG No.: H1788 **Order ID:** H1788

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
H1788-05	SB-5(9-10)	SOIL	Chromium	20.200		0.125	0.125	0.502	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Cobalt	4.620		0.376	0.376	1.51	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Copper	7.400		0.251	0.251	1	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Iron	11,100.000		1.25	1.25	5.02	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Lead	6.600		0.12	0.251	0.602	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Magnesium	1,680.000		4.6	25.1	100	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Manganese	46.200		0.191	0.251	1	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Mercury	0.051		0.008	0.008	0.016	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Nickel	16.200		0.462	0.502	2.01	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Potassium	277.000		3.51	25.1	100	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Sodium	115.000		2.53	25.1	100	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Vanadium	20.400		0.502	0.502	2.01	mg/Kg
H1788-05	SB-5(9-10)	SOIL	Zinc	43.400		0.502	0.502	2.01	mg/Kg
Client ID :	**TW-1**								
H1788-06	TW-1	WATER	Aluminum	83,900.000		6.5	12.5	50	ug/L
H1788-06	TW-1	WATER	Arsenic	26.400		2.5	2.5	10	ug/L
H1788-06	TW-1	WATER	Barium	1,540.000		4	12.5	50	ug/L
H1788-06	TW-1	WATER	Beryllium	3.360		0.7	0.75	3	ug/L
H1788-06	TW-1	WATER	Calcium	90,400.000		31.8	250	1000	ug/L
H1788-06	TW-1	WATER	Chromium	685.000		1.1	1.25	5	ug/L
H1788-06	TW-1	WATER	Cobalt	143.000		3.75	3.75	15	ug/L
H1788-06	TW-1	WATER	Copper	266.000		2	2.5	10	ug/L
H1788-06	TW-1	WATER	Iron	198,000.000		12.5	12.5	50	ug/L
H1788-06	TW-1	WATER	Lead	49.200		1.5	1.5	6	ug/L
H1788-06	TW-1	WATER	Magnesium	70,500.000		32.5	250	1000	ug/L
H1788-06	TW-1	WATER	Manganese	4,410.000		1.7	2.5	10	ug/L
H1788-06	TW-1	WATER	Mercury	4.690		0.1	0.1	0.2	ug/L
H1788-06	TW-1	WATER	Nickel	659.000		4.2	5.0	20	ug/L
H1788-06	TW-1	WATER	Potassium	28,700.000		38.8	250	1000	ug/L
H1788-06	TW-1	WATER	Silver	20.200		1.25	1.25	5	ug/L
H1788-06	TW-1	WATER	Sodium	14,900.000		13.9	250	1000	ug/L
H1788-06	TW-1	WATER	Vanadium	376.000		5	5.0	20	ug/L
H1788-06	TW-1	WATER	Zinc	440.000		5	5.0	20	ug/L
Client ID :	**TW-2**								
H1788-07	TW-2	WATER	Aluminum	3,090.000		6.5	12.5	50	ug/L
H1788-07	TW-2	WATER	Barium	110.000		4	12.5	50	ug/L
H1788-07	TW-2	WATER	Calcium	52,300.000		31.8	250	1000	ug/L
H1788-07	TW-2	WATER	Chromium	16.200		1.1	1.25	5	ug/L
H1788-07	TW-2	WATER	Cobalt	10.200	J	3.75	3.75	15	ug/L
H1788-07	TW-2	WATER	Copper	6.700	J	2	2.5	10	ug/L
H1788-07	TW-2	WATER	Iron	12,200.000		12.5	12.5	50	ug/L

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Hit Summary Sheet
SW-846

SDG No.: H1788 **Order ID:** H1788

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
H1788-07	TW-2	WATER	Lead	2.300	J	1.5	1.5	6	ug/L
H1788-07	TW-2	WATER	Magnesium	29,000.000		32.5	250	1000	ug/L
H1788-07	TW-2	WATER	Manganese	656.000		1.7	2.5	10	ug/L
H1788-07	TW-2	WATER	Nickel	13.800	J	4.2	5.0	20	ug/L
H1788-07	TW-2	WATER	Potassium	7,100.000		38.8	250	1000	ug/L
H1788-07	TW-2	WATER	Sodium	31,300.000		13.9	250	1000	ug/L
H1788-07	TW-2	WATER	Vanadium	12.500	J	5	5.0	20	ug/L
H1788-07	TW-2	WATER	Zinc	15.500	J	5	5.0	20	ug/L
Client ID :	**TW-4**								
H1788-08	TW-4	WATER	Aluminum	70,300.000		6.5	12.5	50	ug/L
H1788-08	TW-4	WATER	Arsenic	22.300		2.5	2.5	10	ug/L
H1788-08	TW-4	WATER	Barium	1,510.000		4	12.5	50	ug/L
H1788-08	TW-4	WATER	Beryllium	3.620		0.7	0.75	3	ug/L
H1788-08	TW-4	WATER	Cadmium	2.180	J	0.5	0.75	3	ug/L
H1788-08	TW-4	WATER	Calcium	138,000.000		31.8	250	1000	ug/L
H1788-08	TW-4	WATER	Chromium	413.000		1.1	1.25	5	ug/L
H1788-08	TW-4	WATER	Cobalt	161.000		3.75	3.75	15	ug/L
H1788-08	TW-4	WATER	Copper	469.000		2	2.5	10	ug/L
H1788-08	TW-4	WATER	Iron	199,000.000		12.5	12.5	50	ug/L
H1788-08	TW-4	WATER	Lead	208.000		1.5	1.5	6	ug/L
H1788-08	TW-4	WATER	Magnesium	75,200.000		32.5	250	1000	ug/L
H1788-08	TW-4	WATER	Manganese	3,790.000		1.7	2.5	10	ug/L
H1788-08	TW-4	WATER	Mercury	1.780		0.1	0.1	0.2	ug/L
H1788-08	TW-4	WATER	Nickel	737.000		4.2	5.0	20	ug/L
H1788-08	TW-4	WATER	Potassium	25,300.000		38.8	250	1000	ug/L
H1788-08	TW-4	WATER	Silver	21.600		1.25	1.25	5	ug/L
H1788-08	TW-4	WATER	Sodium	22,300.000		13.9	250	1000	ug/L
H1788-08	TW-4	WATER	Vanadium	382.000		5	5.0	20	ug/L
H1788-08	TW-4	WATER	Zinc	939.000		5	5.0	20	ug/L
Client ID :	**TW-5**								
H1788-09	TW-5	WATER	Aluminum	156,000.000		6.5	12.5	50	ug/L
H1788-09	TW-5	WATER	Arsenic	24.700		2.5	2.5	10	ug/L
H1788-09	TW-5	WATER	Barium	2,450.000		4	12.5	50	ug/L
H1788-09	TW-5	WATER	Beryllium	9.430		0.7	0.75	3	ug/L
H1788-09	TW-5	WATER	Cadmium	0.725	J	0.5	0.75	3	ug/L
H1788-09	TW-5	WATER	Calcium	25,500.000		31.8	250	1000	ug/L
H1788-09	TW-5	WATER	Chromium	444.000		1.1	1.25	5	ug/L
H1788-09	TW-5	WATER	Cobalt	161.000		3.75	3.75	15	ug/L
H1788-09	TW-5	WATER	Copper	312.000		2	2.5	10	ug/L
H1788-09	TW-5	WATER	Iron	326,000.000		12.5	12.5	50	ug/L
H1788-09	TW-5	WATER	Lead	167.000		1.5	1.5	6	ug/L

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Hit Summary Sheet
SW-846

SDG No.: H1788 **Order ID:** H1788

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
H1788-09	TW-5	WATER	Magnesium	44,000.000		32.5	250	1000	ug/L
H1788-09	TW-5	WATER	Manganese	1,690.000		1.7	2.5	10	ug/L
H1788-09	TW-5	WATER	Mercury	0.530		0.1	0.1	0.2	ug/L
H1788-09	TW-5	WATER	Nickel	1,140.000		4.2	5.0	20	ug/L
H1788-09	TW-5	WATER	Potassium	22,700.000		38.8	250	1000	ug/L
H1788-09	TW-5	WATER	Silver	36.700		1.25	1.25	5	ug/L
H1788-09	TW-5	WATER	Sodium	5,390.000		13.9	250	1000	ug/L
H1788-09	TW-5	WATER	Vanadium	416.000		5	5.0	20	ug/L
H1788-09	TW-5	WATER	Zinc	624.000		5	5.0	20	ug/L

SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
Level (low/med):	low	% Solid:	86.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7429-90-5	Aluminum	4190		1	0.806	1.2	4.8	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-36-0	Antimony	0.6	UN	1	0.537	0.6	2.4	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-38-2	Arsenic	2.21		1	0.24	0.24	0.959	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-39-3	Barium	28.3		1	0.384	1.2	4.8	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-41-7	Beryllium	0.271	J	1	0.058	0.072	0.288	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-43-9	Cadmium	0.072	U	1	0.058	0.072	0.288	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-70-2	Calcium	763		1	1.03	24	95.9	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-47-3	Chromium	12.3		1	0.12	0.12	0.48	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-48-4	Cobalt	7.14		1	0.36	0.36	1.44	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-50-8	Copper	9.15		1	0.24	0.24	0.959	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7439-89-6	Iron	11500		1	1.2	1.2	4.8	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7439-92-1	Lead	4.07		1	0.115	0.24	0.576	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7439-95-4	Magnesium	1010		1	4.39	24	95.9	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7439-96-5	Manganese	116		1	0.182	0.24	0.959	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7439-97-6	Mercury	0.007	U	1	0.007	0.007	0.014	mg/Kg	03/16/16 17:33	03/17/16 15:46	SW7471A
7440-02-0	Nickel	13.4		1	0.441	0.48	1.92	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-09-7	Potassium	455		1	3.36	24	95.9	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7782-49-2	Selenium	0.24	U	1	0.24	0.24	0.959	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-22-4	Silver	0.12	U	1	0.12	0.12	0.48	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-23-5	Sodium	62	J	1	2.42	24	95.9	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-28-0	Thallium	0.48	U	1	0.259	0.48	1.92	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-62-2	Vanadium	12		1	0.48	0.48	1.92	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010
7440-66-6	Zinc	39.4		1	0.48	0.48	1.92	mg/Kg	03/17/16 09:45	03/17/16 16:37	SW6010

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3/21(216
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3/214216
Client Sample ID:	SB-(8)-9H	SDG No.:	7 10))
Lab Sample ID:	7 10))-3(	Matrix:	SOIL
Level 8lo5 2medH	lo5	% Solid:	)/./

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
04(9-93-w	Aluminum	13133		1	3.)44	1.(6	w3(	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-/6-3	Antimony	3.6()	UN	1	3.w6/	3.6()	(.wl	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-/)-(	Arsenic	/.9w		1	3.(wl	3.(wl	1	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-/9-/	Barium	9w1		1	3.43(	1.(6	w3(	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-41-0	Beryllium	3.4w(		1	3.36	3.30w	3./31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-4/-9	Cadmium	3.30w	U	1	3.36	3.30w	3./31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-03-(	Calcium	19/3		1	1.30	(w1	133	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-40-/	CJromium	(/		1	3.1(6	3.1(6	3.w3(	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-4)-4	Cobalt	6.(1		1	3./00	3./00	1.wl	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-w3-)	Copper	11.w		1	3.(wl	3.(wl	1	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
04/9-)9-6	Iron	1))33		1	1.(6	1.(6	w3(	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
04/9-9(-1	Lead	).3/		1	3.1(1	3.(wl	3.63/	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
04/9-9w-4	Magnesium	16)3		1	4.6	(w1	133	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
04/9-96-w	Manganese	w3.4		1	3.191	3.(wl	1	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
04/9-90-6	Mercury	3.31(	h	1	3.33)	3.33)	3.31w	mg2Kg	3/216216 10://	3/210216 1w4)	SW0401A
0443-3(-3	Nickel	1)./		1	3.46(	3.w3(	(.31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-39-0	Potassium	/)w		1	/.w(	(w1	133	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
00)(-49-(	Selenium	3.(wl	U	1	3.(wl	3.(wl	1	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-((-4	Silver	3./9(	h	1	3.1(6	3.1(6	3.w3(	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-(/-w	Sodium	(1w		1	(.w/	(w1	133	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-()-3	TJallium	3.w3(	U	1	3.(01	3.w3(	(.31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-6(-(	Vanadium	(w.(		1	3.w3(	3.w3(	(.31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313
0443-66-6	Zinc	91.4		1	3.w3(	3.w3(	(.31	mg2Kg	3/210216 39:4w	3/210216 16:41	SW6313

Color Before:	Bro5 n	Clarity Before:		Texture:	Medium
Color After:	Yello5	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = MetJod Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

h = Estimated Value
B = Analyte Found in Associated MetJod Blank
* = indicates tJe duplicate analysis is not 5 itJin control limits.
E = Indicates tJe reported value is estimated because of tJe presence of interference.
OR = Over Range
N =Spiked sample recovery not 5 itJin control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3(/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-3(	Matrix:	SOIL
Level 8lo5 /med7:	lo5	% Solid:	93.H

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
) 429-93-w	Aluminum	) 333		1	3.) 6w	1.14	4.ww	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-(6-3	Antimony	3.w69	UN	1	3.wl	3.w69	2.2H	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-(H-2	Arsenic	2.19		1	3.22H	3.22H	3.91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-(9-(	Barium	(9.9		1	3.(64	1.14	4.ww	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-41-)	Beryllium	3.2) H		1	3.3ww	3.36H	3.2) (	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-4(-9	Cadmium	3.36H	U	1	3.3ww	3.36H	3.2) (	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-) 3-2	Calcium	H))		1	3.9) 4	22.H	91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-4) -(	CJ romium	1H1		1	3.114	3.114	3.4ww	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-4H-4	Cobalt	H92		1	3.(41	3.(41	1.( )	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-w3-H	Copper	1w.9		1	3.22H	3.22H	3.91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 4(9-H9-6	Iron	13433		1	1.14	1.14	4.ww	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 4(9-92-1	Lead	(.w(		1	3.139	3.22H	3.w46	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 4(9-9w-4	Magnesium	1933		1	4.1)	22.H	91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 4(9-96-w	Manganese	16H		1	3.1) (	3.22H	3.91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 4(9-9) -6	Mercury	3.33)	U	1	3.33)	3.33)	3.31(	mg/Kg	3(/16/16 1) :((	3(/1) /16 1w.w3	SW) 4) 1A
) 443-32-3	Nichel	1) .w		1	3.419	3.4ww	1.H2	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-39-)	Potassium	wH4		1	(.19	22.H	91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
)) H2-49-2	Selenium	3.22H	U	1	3.22H	3.22H	3.91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-22-4	Silver	3.114	U	1	3.114	3.114	3.4ww	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-2(-w	Sodium	9) .H		1	2.29	22.H	91	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-2H-3	kJ allium	3.4ww	U	1	3.246	3.4ww	1.H2	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-62-2	Tanadium	16.(		1	3.4ww	3.4ww	1.H2	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313
) 443-66-6	Vinc	(3.)		1	3.4ww	3.4ww	1.H2	mg/Kg	3(/1) /16 39:4w	3(/1) /16 16:4w	SW6313

Color Be=ore:	Bro5 n	Clarity Be=ore:		kexture:	Medium
Color A=ter:	Yello5	Clarity A=ter:		Arti=acts:	No
Comments:	METALS-TAL				

U Z Not Detected
LO* Z Limit o=* uantitation
MDL Z MetJ od Detection Limit
LOD Z Limit o=Detection
D Z Dilution
* Z indicates LCS control criteria did not meet requirements

QZ Estimated Talue
B Z Analyte Found in Associated MetJ od Blanh
f Z indicates tJ e duplicate analysis is not 5 itJ in control limits.
E Z Indicates tJ e reported value is estimated because o=tJ e presence o=inter=erence.
OR Z Over Range
N ZSpihed sample recovery not 5 itJ in control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3/ 2162 14
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3/ 21(2 14
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-3(	Matrix:	SOIL
Level 8low2med7:	low	% Solid:	HH5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
)(69-93-5	Aluminum	/ 353		1	3.H65	1.6/	(.91	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-/ 4-3	Antimony	3.41(	UN	1	3.55	3.41(	6.(4	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-/ H-6	Arsenic	6.(4		1	3.6(4	3.6(4	3.9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-/ 9-/	Barium	6/ .)		1	3./ 9/	1.6/	(.91	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-(1-)	Beryllium	3.66)	J	1	3.359	3.3) (	3.695	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-(/ -9	Cadmium	3.3) (	U	1	3.359	3.3) (	3.695	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-) 3-6	Calcium	1/ HB		1	1.35	6(.4	9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-( ) -/	Chromium	) .6/		1	3.16/	3.16/	3.(91	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-(H-(	Cobalt	(./ 4		1	3./ 4H	3./ 4H	1.( )	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-53-H	Copper	5.) (		1	3.6(4	3.6(4	3.9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)(/ 9-H9-4	Iron	96) 3		1	1.6/	1.6/	(.91	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)(/ 9-96-1	Lead	6.5)		1	3.11H	3.6(4	3.59	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)(/ 9-95-(	Magnesium	951		1	(.5	6(.4	9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)(/ 9-94-5	Manganese	9H/		1	3.1H)	3.6(4	3.9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)(/ 9-9) -4	Mercury	3.33)	U	1	3.33)	3.33)	3.31(	mg2Kg	3/ 2142 14 1) :/ /	3/ 21) 214 15:5/	SW) ( ) 1A
)((3-36-3	Nickel	HH(		1	3.(56	3.(91	1.9)	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-39-)	Potassium	HB1		1	/ .((	6(.4	9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)) H6-(9-6	Selenium	3.6(4	U	1	3.6(4	3.6(4	3.9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-66-(	Silver	3.16/	U	1	3.16/	3.16/	3.(91	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-6/ -5	Sodium	1/ 5		1	6.(H	6(.4	9H/	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-6H-3	Thallium	3.(91	U	1	3.645	3.(91	1.9)	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-46-6	Vanadium	H99		1	3.(91	3.(91	1.9)	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313
)((3-44-4	Zinc	/ 9.H		1	3.(91	3.(91	1.9)	mg2Kg	3/ 21) 214 39:(5	3/ 21) 214 14:(9	SW4313

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		Artifacts:	No
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	)/216214
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	)/21O214
Client Sample ID:	SB-(89-1)H	SDG No.:	71033
Lab Sample ID:	71033-)(	Matrix:	S5 IL
Level 8low2medH	low	% Solid:	36.0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
0O69-9)-(	Aluminum	160))		1	).3O'	1.6(	(.)6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-/4-)	Antimony	).460	UN	1	).(46	).460	6.(1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-/3-6	Arsenic	1.06		1	).6(1	).6(1	1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-/9-/	Barium	0).O		1	).O)1	1.6(	(.)6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-O1-0	Beryllium	).O33		1	).)4	).)0(	)./)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-O'-9	Cadmium	).)0(	U	1	).)4	).)0(	)./)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-0)-6	Calcium	161)		1	1.)0	6(.1	1))	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-O0-/	CJromium	6).6		1	).16(	).16(	).()6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-O3-O	Cobalt	O46		1	)./04	)./04	1.(1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-()-3	Copper	0.O		1	).6(1	).6(1	1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0O'9-39-4	Iron	111))		1	1.6(	1.6(	(.)6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0O'9-96-1	Lead	4.4		1	).16	).6(1	).4)6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0O'9-9(-O	Magnesium	143)		1	O4	6(.1	1))	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0O'9-94-(	Manganese	O4.6		1	).191	).6(1	1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0O'9-90-4	Mercury	).)(1		1	).))3	).))3	).)14	mg2Kg	)/214214 10://)	)/210214 1(:((	SW0O01A
0OO)-)6-)	Nichel	14.6		1	).O46	).()6	6.)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-)9-0	Potassium	600		1	/.(1	6(.1	1))	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0036-O9-6	Selenium	).6(1	U	1	).6(1	).6(1	1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-66-O	Silver	).16(	U	1	).16(	).16(	).()6	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-6/-(	Sodium	11(		1	6.(/	6(.1	1))	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-63-)	kJallium	).()6	U	1	).601	).()6	6.)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-46-6	Tanadium	6).O		1	).()6	).()6	6.)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)
0OO)-44-4	Vinc	O'.O		1	).()6	).()6	6.)1	mg2Kg	)/210214)9:O(	)/210214 14:(/	SW4)1)

Color Be=ore:	Brown	Clarity Be=ore:		kexture:	Medium
Color A=ter:	Yellow	Clarity A=ter:		Arti=acts:	No
Comments:	METALS-TAL				

U Z Not Detected
L5 * Z Limit o=* uantitation
MDL Z MetJod Detection Limit
L5 D Z Limit o=Detection
D Z Dilution
* Z indicates LCS control criteria did not meet requirements

QZ Estimated Talue
B Z Analyte Found in Associated MetJod Blanh
f Z indicates tJe duplicate analysis is not witJ in control limits.
E Z Indicates tJe reported value is estimated because o=tJe presence o=inter=erence.
5 R Z 5 ver Range
N ZSpihed sample recovery not witJ in control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/12/10
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/16/10
Client Sample ID:	B(-1	SDG No.:	8 1) HH
Lab Sample ID:	8 1) HH-70	Matrix:	(ABER
Level 4loO/med5:	loO	% Solid:	7

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
) 629-97-u	Alwminwm	H-B977	N	1	0.u	12.u	u7	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-30-7	AntimonU	0.2u	W	1	0.2u	0.2u	2u	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-3H-2	Arsenic	20.6		1	2.u	2.u	17	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-39-3	y ariwm	1u67		1	6	12.u	u7	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-61-)	y erUliwm	3.30		1	7.)	7.) u	3	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-63-9	Cadmiwm	7.) u	W	1	7.u	7.) u	3	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-) 7-2	Calciwm	97677		1	31.H	2u7	1777	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-6) -3	CJ romiwm	0Hu		1	1.1	1.2u	u	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-6H-6	Cobalt	163		1	3.) u	3.) u	1u	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-u7-H	Copper	200		1	2	2.u	17	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 639-H9-0	Iron	19H/77		1	12.u	12.u	u7	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 639-92-1	Lead	69.2		1	1.u	1.u	0	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 639-9u-6	Magnesiwm	) 7u77		1	32.u	2u7	1777	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 639-90-u	Manganese	6617		1	1.)	2.u	17	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 639-9) -0	MercwrU	6.09		1	7.1	7.1	7.2	wg/L	73/1u/10 1u:39	73/10/10 1u:6)	S( ) 6) 7A
) 667-72-7	Nichel	0u9		1	6.2	u.7	27	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-79-)	Potassiwm	2H) 77		1	3HH	2u7	1777	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
)) H2-69-2	Seleniwm	u	W	1	6.H	u.7	17	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-22-6	Silver	27.2		1	1.2u	1.2u	u	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-23-u	Sodiwm	16977		1	13.9	2u7	1777	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-2H-7	BJ alliwm	u	W	1	2.6	u.7	27	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-02-2	k anadiwm	3) 0		1	u	u.7	27	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717
) 667-00-0	Tinc	667		1	u	u.7	27	wg/L	73/1H/10 79:37	73/1H/10 16:71	S(0717

Color y e=ore:	y roOn	ClaritUy e=ore:	Clear	Bextwre:	
Color A=ter:	Colorless	ClaritUA=ter:	ClowdU	Arti=acts:	
Comments:	METALS-TAL				

WV Not Detected
LZ* V Limit o=* wantitation
MDL V MetJ od Detection Limit
LZD V Limit o=Detection
D V Dilwtion
* V indicates LCS control criteria did not meet reqwirements

QV Estimated k alwe
y V AnalUte Fownd in Associated MetJ od y lanh
f V indicates tJ e dwplicate analUsis is not OitJ in control limits.
E V Indicates tJ e reported valwe is estimated becawse o=tJ e presence o=inter=erence.
ZR V Z ver Range
N V Spihed sample recoverUnot OitJ in control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/18/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/16/12
Client Sample ID:	B(-8	SDG No.:	) 1H77
Lab Sample ID:	) 1H77-0H	Matrix:	(ABER
Level 4loO/med5:	loO	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
H689-90-u	Alwminwm	3090	N	1	2.u	18.u	u0	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-32-0	AntimonU	2.8u	W	1	2.8u	2.8u	8u	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-37-8	Arsenic	8.u	W	1	8.u	8.u	10	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-39-3	y ariwm	110		1	6	18.u	u0	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-61-H	y erUliwm	0.Hu	W	1	0.H	0.Hu	3	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-63-9	Cadmiwm	0.Hu	W	1	0.u	0.Hu	3	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-H0-8	Calciwm	u8300		1	31.7	8u0	1000	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-6H-3	CJ romiwm	12.8		1	1.1	1.8u	u	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-67-6	Cobalt	10.8	h	1	3.Hu	3.Hu	1u	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-u0-7	Copper	2.H	h	1	8	8.u	10	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H639-79-2	Iron	18800		1	18.u	18.u	u0	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H639-98-1	Lead	8.3	h	1	1.u	1.u	2	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H639-9u-6	Magnesiwm	89000		1	38.u	8u0	1000	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H639-92-u	Manganese	2u2		1	1.H	8.u	10	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H639-9H-2	MercwrU	0.1	W	1	0.1	0.1	0.8	wg/L	03/1u/12 1u:39	03/12/12 1u:u6	S(H6H0A
H660-08-0	Nickel	13.7	h	1	6.8	u.0	80	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-09-H	Potassiwm	HI00		1	37.7	8u0	1000	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
HH78-69-8	Seleniwm	u	W	1	6.7	u.0	10	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-88-6	Silver	1.8u	W	1	1.8u	1.8u	u	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-83-u	Sodiwm	31300		1	13.9	8u0	1000	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-87-0	BJ alliwm	u	W	1	8.6	u.0	80	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-28-8	Tanadiwm	18.u	h	1	u	u.0	80	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010
H660-22-2	Vinc	1u.u	h	1	u	u.0	80	wg/L	03/17/12 09:30	03/17/12 16:0u	S(2010

Color y efore:	Colorless	ClaritUy efore:	Clear	Bextwre:	
Color After:	Colorless	ClaritUAfter:	Clear	Artifacts:	
Comments:	METALS-TAL				

WZ Not Detected
L=Q Z Limit of Qwantitation
MDL Z MetJ od Detection Limit
L=D Z Limit of Detection
D Z Dilwtion
Q Z indicates LCS control criteria did not meet reqwirements

h Z Estimated Talwe
y Z AnalUte Fownd in Associated MetJ od y lank
* Z indicates tJ e dwplicate analUsis is not OitJ in control limits.
E Z Indicates tJ e reported valwe is estimated becawse of tJ e presence of interference.
=R Z = ver Range
N ZSpiked sample recoverUnot OitJ in control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/18/16
Client Sample ID:	B(-8	SDG No.:	) 1H77
Lab Sample ID:	) 1H77-07	Matrix:	(ABER
Level 4loO/med5:	loO	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
H829-90-u	Alwminwm	H0300	N	1	6.u	12.u	u0	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-36-0	AntimonU	6.2u	W	1	6.2u	6.2u	2u	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-37-2	Arsenic	22.3		1	2.u	2.u	10	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-39-3	y ariwm	1u10		1	8	12.u	u0	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-81-H	y erUliwm	3.62		1	0.H	0.Hu	3	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-83-9	Cadmiwm	2.17	J	1	0.u	0.Hu	3	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-H0-2	Calciwm	137000		1	31.7	2u0	1000	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-8H-3	Chromiwm	813		1	1.1	1.2u	u	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-87-8	Cobalt	161		1	3.Hu	3.Hu	1u	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-u0-7	Copper	869		1	2	2.u	10	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H839-79-6	Iron	199000		1	12.u	12.u	u0	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H839-92-1	Lead	207		1	1.u	1.u	6	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H839-9u-8	Magnesiwm	Hu200		1	32.u	2u0	1000	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H839-96-u	Manganese	3H90		1	1.H	2.u	10	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H839-9H-6	MercwrU	1.H7		1	0.1	0.1	0.2	wg/L	03/1u/16 1u:39	03/16/16 16:02	S(H8H0A
H880-02-0	Nickel	H8H		1	8.2	u.0	20	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-09-H	Potassiwm	2u300		1	37.7	2u0	1000	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
HH72-89-2	Seleniwm	u	W	1	8.7	u.0	10	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-22-8	Silver	21.6		1	1.2u	1.2u	u	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-23-u	Sodiwm	22300		1	13.9	2u0	1000	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-27-0	Bhalliwm	u	W	1	2.8	u.0	20	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-62-2	Tanadiwm	372		1	u	u.0	20	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010
H880-66-6	Vinc	939		1	u	u.0	20	wg/L	03/17/16 09:30	03/17/16 18:32	S(6010

Color y efore:	y roOn	ClaritUy efore:	Clear	Bextwre:	
Color After:	Colorless	ClaritUAfter:	ClowdU	Artifacts:	
Comments:	METALS-TAL				

WZ Not Detected
L=Q Z Limit of Qwantitation
MDL Z Method Detection Limit
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D Z Dilwtion
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J Z Estimated Talwe
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N ZSpiked sample recoverUnot Oithin control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	B(-8	SDG No.:	) 1H77
Lab Sample ID:	) 1H77-09	Matrix:	(ABER
Level Oo5 /medw	lo5	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
H429-90-8	Aluminum	186000	N	1	6.8	12.8	80	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-36-0	AntimonU	6.28	W	1	6.28	6.28	28	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-37-2	Arsenic	24.H		1	2.8	2.8	10	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-39-3	y arium	2480		1	4	12.8	80	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-41-H	y erUllium	9.43		1	0.H	0.H8	3	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-43-9	Cadmium	0.H28	J	1	0.8	0.H8	3	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-H0-2	Calcium	28800		1	31.7	280	1000	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-4H-3	Chromium	444		1	1.1	1.28	8	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-47-4	Cobalt	161		1	3.H8	3.H8	18	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-80-7	Copper	312		1	2	2.8	10	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H439-79-6	Iron	326000		1	12.8	12.8	80	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H439-92-1	Lead	16H		1	1.8	1.8	6	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H439-98-4	Magnesium	44000		1	32.8	280	1000	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H439-96-8	Manganese	1690		1	1.H	2.8	10	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H439-9H-6	MercurU	0.83		1	0.1	0.1	0.2	ug/L	03/18/16 18:39	03/16/16 16:04	S(H4H0A
H440-02-0	Nickel	1140		1	4.2	8.0	20	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-09-H	Potassium	22H00		1	37.7	280	1000	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
HH72-49-2	Selenium	8	W	1	4.7	8.0	10	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-22-4	Silver	36.H		1	1.28	1.28	8	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-23-8	Sodium	8390		1	13.9	280	1000	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-27-0	Bhallium	8	W	1	2.4	8.0	20	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-62-2	Tanadium	416		1	8	8.0	20	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010
H440-66-6	Vinc	624		1	8	8.0	20	ug/L	03/17/16 09:30	03/17/16 18:00	S(6010

Color y efore:	y ro5 n	ClaritUy efore:	Clear	Bexture:	
Color After:	Colorless	ClaritUAfter:	CloudU	Artifacts:	
Comments:	METALS-TAL				

WZ Not Detected
L=Q Z Limit of Quantitation
MDL Z Method Detection Limit
L=D Z Limit of Detection
D Z Dilution
Q Z indicates LCS control criteria did not meet requirements

J Z Estimated Talue
y Z AnalUte Found in Associated Method y lank
* Z indicates the duplicate analUsis is not 5 ithin control limits.
E Z Indicates the reported value is estimated because of the presence of interference.
=R Z = ver Range
N ZSpiked sample recoverUnot 5 ithin control limits

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV26	Mercury	3.7174	4.0	92.9	90 - 110	CV	03/16/2016	14:08	LB80559

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV39	Mercury	4.581	5.0	91.6	90 - 110	CV	03/16/2016	14:12	LB80559
CCV40	Mercury	4.7112	5.0	94.2	90 - 110	CV	03/16/2016	14:45	LB80559
CCV41	Mercury	4.8694	5.0	97.4	90 - 110	CV	03/16/2016	15:11	LB80559
CCV42	Mercury	4.6039	5.0	92.1	90 - 110	CV	03/16/2016	15:39	LB80559
CCV43	Mercury	5.2355	5.0	104.7	90 - 110	CV	03/16/2016	16:06	LB80559
CCV44	Mercury	5.0932	5.0	101.9	90 - 110	CV	03/16/2016	16:19	LB80559

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV28	Mercury	4.0874	4.0	102.2	90 - 110	CV	03/17/2016	11:54	LB80576

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Mercury	5.349	5.0	107	90 - 110	CV	03/17/2016	11:58	LB80576
CCV02	Mercury	5.131	5.0	102.6	90 - 110	CV	03/17/2016	12:28	LB80576
CCV03	Mercury	5.4264	5.0	108.5	90 - 110	CV	03/17/2016	12:59	LB80576
CCV04	Mercury	5.2671	5.0	105.3	90 - 110	CV	03/17/2016	13:29	LB80576
CCV05	Mercury	5.0131	5.0	100.3	90 - 110	CV	03/17/2016	14:05	LB80576
CCV06	Mercury	5.4116	5.0	108.2	90 - 110	CV	03/17/2016	14:33	LB80576
CCV07	Mercury	5.3258	5.0	106.5	90 - 110	CV	03/17/2016	15:07	LB80576
CCV08	Mercury	5.4074	5.0	108.1	90 - 110	CV	03/17/2016	15:41	LB80576
CCV09	Mercury	5.2898	5.0	105.8	90 - 110	CV	03/17/2016	16:11	LB80576
CCV10	Mercury	5.4336	5.0	108.7	90 - 110	CV	03/17/2016	16:32	LB80576
CCV11	Mercury	5.2713	5.0	105.4	90 - 110	CV	03/17/2016	16:50	LB80576
CCV12	Mercury	5.238	5.0	104.8	90 - 110	CV	03/17/2016	17:18	LB80576
CCV13	Mercury	5.2392	5.0	104.8	90 - 110	CV	03/17/2016	17:55	LB80576
CCV14	Mercury	5.1618	5.0	103.2	90 - 110	CV	03/17/2016	18:09	LB80576

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2474.5	2521	98.2	90 - 110	P	03/17/2016	11:35	LB80581
	Antimony	981.18	994	98.7	90 - 110	P	03/17/2016	11:35	LB80581
	Arsenic	1027.5	999	102.9	90 - 110	P	03/17/2016	11:35	LB80581
	Barium	523.91	503	104.2	90 - 110	P	03/17/2016	11:35	LB80581
	Beryllium	499.42	495	100.9	90 - 110	P	03/17/2016	11:35	LB80581
	Cadmium	499.86	496	100.8	90 - 110	P	03/17/2016	11:35	LB80581
	Calcium	10426	10026	104	90 - 110	P	03/17/2016	11:35	LB80581
	Chromium	503.54	490	102.8	90 - 110	P	03/17/2016	11:35	LB80581
	Cobalt	503.84	499	101	90 - 110	P	03/17/2016	11:35	LB80581
	Copper	520.5	492	105.8	90 - 110	P	03/17/2016	11:35	LB80581
	Iron	5110.3	5082	100.6	90 - 110	P	03/17/2016	11:35	LB80581
	Lead	1009.2	1002	100.7	90 - 110	P	03/17/2016	11:35	LB80581
	Magnesium	6243	6074	102.8	90 - 110	P	03/17/2016	11:35	LB80581
	Manganese	532.32	499	106.7	90 - 110	P	03/17/2016	11:35	LB80581
	Nickel	501.99	503	99.8	90 - 110	P	03/17/2016	11:35	LB80581
	Potassium	10218	10021	102	90 - 110	P	03/17/2016	11:35	LB80581
	Selenium	1024.6	1029	99.6	90 - 110	P	03/17/2016	11:35	LB80581
	Silver	466.66	501	93.1	90 - 110	P	03/17/2016	11:35	LB80581
	Sodium	10236	10097	101.4	90 - 110	P	03/17/2016	11:35	LB80581
	Thallium	1039.3	1028	101.1	90 - 110	P	03/17/2016	11:35	LB80581
	Vanadium	509.38	501	101.7	90 - 110	P	03/17/2016	11:35	LB80581
	Zinc	1052.1	1025	102.6	90 - 110	P	03/17/2016	11:35	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	103.16	100	103.2	70 - 130	P	03/17/2016	11:39	LB80581
	Antimony	48.51	50.0	97	70 - 130	P	03/17/2016	11:39	LB80581
	Arsenic	22.15	20.0	110.8	70 - 130	P	03/17/2016	11:39	LB80581
	Barium	102.61	100	102.6	70 - 130	P	03/17/2016	11:39	LB80581
	Beryllium	6.03	6.0	100.5	70 - 130	P	03/17/2016	11:39	LB80581
	Cadmium	5.83	6.0	97.2	70 - 130	P	03/17/2016	11:39	LB80581
	Calcium	2046.1	2000	102.3	70 - 130	P	03/17/2016	11:39	LB80581
	Chromium	10	10.0	100	70 - 130	P	03/17/2016	11:39	LB80581
	Cobalt	28.64	30.0	95.5	70 - 130	P	03/17/2016	11:39	LB80581
	Copper	19.96	20.0	99.8	70 - 130	P	03/17/2016	11:39	LB80581
	Iron	110.86	100	110.9	70 - 130	P	03/17/2016	11:39	LB80581
	Lead	12.05	12.0	100.4	70 - 130	P	03/17/2016	11:39	LB80581
	Magnesium	2018.2	2000	100.9	70 - 130	P	03/17/2016	11:39	LB80581
	Manganese	21.12	20.0	105.6	70 - 130	P	03/17/2016	11:39	LB80581
	Nickel	38.66	40.0	96.7	70 - 130	P	03/17/2016	11:39	LB80581
	Potassium	2031.5	2000	101.6	70 - 130	P	03/17/2016	11:39	LB80581
	Selenium	19.83	20.0	99.2	70 - 130	P	03/17/2016	11:39	LB80581
	Silver	10.82	10.0	108.2	70 - 130	P	03/17/2016	11:39	LB80581
	Sodium	2037.1	2000	101.9	70 - 130	P	03/17/2016	11:39	LB80581
	Thallium	37.22	40.0	93.1	70 - 130	P	03/17/2016	11:39	LB80581
	Vanadium	39.21	40.0	98	70 - 130	P	03/17/2016	11:39	LB80581
	Zinc	43.59	40.0	109	70 - 130	P	03/17/2016	11:39	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9749.2	10000	97.5	90 - 110	P	03/17/2016	11:59	LB80581
	Antimony	4959.2	5000	99.2	90 - 110	P	03/17/2016	11:59	LB80581
	Arsenic	4917.3	5000	98.3	90 - 110	P	03/17/2016	11:59	LB80581
	Barium	9984.9	10000	99.8	90 - 110	P	03/17/2016	11:59	LB80581
	Beryllium	254.19	250	101.7	90 - 110	P	03/17/2016	11:59	LB80581
	Cadmium	2523	2500	100.9	90 - 110	P	03/17/2016	11:59	LB80581
	Calcium	25052	25000	100.2	90 - 110	P	03/17/2016	11:59	LB80581
	Chromium	995.55	1000	99.6	90 - 110	P	03/17/2016	11:59	LB80581
	Cobalt	2494	2500	99.8	90 - 110	P	03/17/2016	11:59	LB80581
	Copper	1257.7	1250	100.6	90 - 110	P	03/17/2016	11:59	LB80581
	Iron	4987.7	5000	99.8	90 - 110	P	03/17/2016	11:59	LB80581
	Lead	4956.7	5000	99.1	90 - 110	P	03/17/2016	11:59	LB80581
	Magnesium	24831	25000	99.3	90 - 110	P	03/17/2016	11:59	LB80581
	Manganese	2601	2500	104	90 - 110	P	03/17/2016	11:59	LB80581
	Nickel	2508.7	2500	100.3	90 - 110	P	03/17/2016	11:59	LB80581
	Potassium	24734	25000	98.9	90 - 110	P	03/17/2016	11:59	LB80581
	Selenium	5033.6	5000	100.7	90 - 110	P	03/17/2016	11:59	LB80581
	Silver	1236.1	1250	98.9	90 - 110	P	03/17/2016	11:59	LB80581
	Sodium	24848	25000	99.4	90 - 110	P	03/17/2016	11:59	LB80581
	Thallium	4980.1	5000	99.6	90 - 110	P	03/17/2016	11:59	LB80581
	Vanadium	2499.6	2500	100	90 - 110	P	03/17/2016	11:59	LB80581
	Zinc	2499.9	2500	100	90 - 110	P	03/17/2016	11:59	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Aluminum	105.34	100	105.3	70 - 130	P	03/17/2016	12:03	LB80581
	Antimony	47.42	50.0	94.8	70 - 130	P	03/17/2016	12:03	LB80581
	Arsenic	19.19	20.0	96	70 - 130	P	03/17/2016	12:03	LB80581
	Barium	104.21	100	104.2	70 - 130	P	03/17/2016	12:03	LB80581
	Beryllium	6.22	6.0	103.7	70 - 130	P	03/17/2016	12:03	LB80581
	Cadmium	6.2	6.0	103.3	70 - 130	P	03/17/2016	12:03	LB80581
	Calcium	2058.6	2000	102.9	70 - 130	P	03/17/2016	12:03	LB80581
	Chromium	10.34	10.0	103.4	70 - 130	P	03/17/2016	12:03	LB80581
	Cobalt	29.03	30.0	96.8	70 - 130	P	03/17/2016	12:03	LB80581
	Copper	20.74	20.0	103.7	70 - 130	P	03/17/2016	12:03	LB80581
	Iron	108.24	100	108.2	70 - 130	P	03/17/2016	12:03	LB80581
	Lead	13.57	12.0	113.1	70 - 130	P	03/17/2016	12:03	LB80581
	Magnesium	2065	2000	103.3	70 - 130	P	03/17/2016	12:03	LB80581
	Manganese	21.72	20.0	108.6	70 - 130	P	03/17/2016	12:03	LB80581
	Nickel	39.32	40.0	98.3	70 - 130	P	03/17/2016	12:03	LB80581
	Potassium	2005	2000	100.3	70 - 130	P	03/17/2016	12:03	LB80581
	Selenium	19.66	20.0	98.3	70 - 130	P	03/17/2016	12:03	LB80581
	Silver	10.19	10.0	101.9	70 - 130	P	03/17/2016	12:03	LB80581
	Sodium	2025.1	2000	101.3	70 - 130	P	03/17/2016	12:03	LB80581
	Thallium	39.72	40.0	99.3	70 - 130	P	03/17/2016	12:03	LB80581
	Vanadium	39.74	40.0	99.4	70 - 130	P	03/17/2016	12:03	LB80581
	Zinc	42.02	40.0	105.1	70 - 130	P	03/17/2016	12:03	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Aluminum	9675	10000	96.8	90 - 110	P	03/17/2016	12:51	LB80581
	Antimony	4932.6	5000	98.7	90 - 110	P	03/17/2016	12:51	LB80581
	Arsenic	4840	5000	96.8	90 - 110	P	03/17/2016	12:51	LB80581
	Barium	10104	10000	101	90 - 110	P	03/17/2016	12:51	LB80581
	Beryllium	252.81	250	101.1	90 - 110	P	03/17/2016	12:51	LB80581
	Cadmium	2526	2500	101	90 - 110	P	03/17/2016	12:51	LB80581
	Calcium	24889	25000	99.6	90 - 110	P	03/17/2016	12:51	LB80581
	Chromium	986.01	1000	98.6	90 - 110	P	03/17/2016	12:51	LB80581
	Cobalt	2492	2500	99.7	90 - 110	P	03/17/2016	12:51	LB80581
	Copper	1255.8	1250	100.5	90 - 110	P	03/17/2016	12:51	LB80581
	Iron	5042.3	5000	100.8	90 - 110	P	03/17/2016	12:51	LB80581
	Lead	4948	5000	99	90 - 110	P	03/17/2016	12:51	LB80581
	Magnesium	24762	25000	99	90 - 110	P	03/17/2016	12:51	LB80581
	Manganese	2589.5	2500	103.6	90 - 110	P	03/17/2016	12:51	LB80581
	Nickel	2505.1	2500	100.2	90 - 110	P	03/17/2016	12:51	LB80581
	Potassium	24320	25000	97.3	90 - 110	P	03/17/2016	12:51	LB80581
	Selenium	4982.5	5000	99.7	90 - 110	P	03/17/2016	12:51	LB80581
	Silver	1228.2	1250	98.3	90 - 110	P	03/17/2016	12:51	LB80581
	Sodium	24671	25000	98.7	90 - 110	P	03/17/2016	12:51	LB80581
	Thallium	4977.7	5000	99.6	90 - 110	P	03/17/2016	12:51	LB80581
	Vanadium	2472.4	2500	98.9	90 - 110	P	03/17/2016	12:51	LB80581
	Zinc	2512.9	2500	100.5	90 - 110	P	03/17/2016	12:51	LB80581
CCV03	Aluminum	9811	10000	98.1	90 - 110	P	03/17/2016	13:45	LB80581
	Antimony	5009.1	5000	100.2	90 - 110	P	03/17/2016	13:45	LB80581
	Arsenic	4911.8	5000	98.2	90 - 110	P	03/17/2016	13:45	LB80581
	Barium	10058	10000	100.6	90 - 110	P	03/17/2016	13:45	LB80581
	Beryllium	253.96	250	101.6	90 - 110	P	03/17/2016	13:45	LB80581
	Cadmium	2526.4	2500	101.1	90 - 110	P	03/17/2016	13:45	LB80581
	Calcium	25078	25000	100.3	90 - 110	P	03/17/2016	13:45	LB80581
	Chromium	987.43	1000	98.7	90 - 110	P	03/17/2016	13:45	LB80581
	Cobalt	2499	2500	100	90 - 110	P	03/17/2016	13:45	LB80581
	Copper	1263.2	1250	101.1	90 - 110	P	03/17/2016	13:45	LB80581
	Iron	5110.8	5000	102.2	90 - 110	P	03/17/2016	13:45	LB80581
	Lead	4959.8	5000	99.2	90 - 110	P	03/17/2016	13:45	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV03	Magnesium	24605	25000	98.4	90 - 110	P	03/17/2016	13:45	LB80581
	Manganese	2593.6	2500	103.7	90 - 110	P	03/17/2016	13:45	LB80581
	Nickel	2508.2	2500	100.3	90 - 110	P	03/17/2016	13:45	LB80581
	Potassium	24471	25000	97.9	90 - 110	P	03/17/2016	13:45	LB80581
	Selenium	5074.8	5000	101.5	90 - 110	P	03/17/2016	13:45	LB80581
	Silver	1233.9	1250	98.7	90 - 110	P	03/17/2016	13:45	LB80581
	Sodium	25065	25000	100.3	90 - 110	P	03/17/2016	13:45	LB80581
	Thallium	5006.5	5000	100.1	90 - 110	P	03/17/2016	13:45	LB80581
	Vanadium	2480.4	2500	99.2	90 - 110	P	03/17/2016	13:45	LB80581
	Zinc	2492.7	2500	99.7	90 - 110	P	03/17/2016	13:45	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV02	Aluminum	125.07	100	125.1	70 - 130	P	03/17/2016	13:49	LB80581
	Antimony	52.26	50.0	104.5	70 - 130	P	03/17/2016	13:49	LB80581
	Arsenic	21.88	20.0	109.4	70 - 130	P	03/17/2016	13:49	LB80581
	Barium	108.86	100	108.9	70 - 130	P	03/17/2016	13:49	LB80581
	Beryllium	6.44	6.0	107.3	70 - 130	P	03/17/2016	13:49	LB80581
	Cadmium	7.62	6.0	127	70 - 130	P	03/17/2016	13:49	LB80581
	Calcium	2086.3	2000	104.3	70 - 130	P	03/17/2016	13:49	LB80581
	Chromium	10.69	10.0	106.9	70 - 130	P	03/17/2016	13:49	LB80581
	Cobalt	30.64	30.0	102.1	70 - 130	P	03/17/2016	13:49	LB80581
	Copper	21.06	20.0	105.3	70 - 130	P	03/17/2016	13:49	LB80581
	Iron	114.97	100	115	70 - 130	P	03/17/2016	13:49	LB80581
	Lead	15.31	12.0	127.6	70 - 130	P	03/17/2016	13:49	LB80581
	Magnesium	2054.9	2000	102.7	70 - 130	P	03/17/2016	13:49	LB80581
	Manganese	22.98	20.0	114.9	70 - 130	P	03/17/2016	13:49	LB80581
	Nickel	40.75	40.0	101.9	70 - 130	P	03/17/2016	13:49	LB80581
	Potassium	2024.7	2000	101.2	70 - 130	P	03/17/2016	13:49	LB80581
	Selenium	24.33	20.0	121.7	70 - 130	P	03/17/2016	13:49	LB80581
	Silver	11.02	10.0	110.2	70 - 130	P	03/17/2016	13:49	LB80581
	Sodium	2114	2000	105.7	70 - 130	P	03/17/2016	13:49	LB80581
	Thallium	44.67	40.0	111.7	70 - 130	P	03/17/2016	13:49	LB80581
	Vanadium	40.64	40.0	101.6	70 - 130	P	03/17/2016	13:49	LB80581
	Zinc	43.98	40.0	110	70 - 130	P	03/17/2016	13:49	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Aluminum	9914.5	10000	99.1	90 - 110	P	03/17/2016	14:37	LB80581
	Antimony	4975.4	5000	99.5	90 - 110	P	03/17/2016	14:37	LB80581
	Arsenic	4879.7	5000	97.6	90 - 110	P	03/17/2016	14:37	LB80581
	Barium	9983.2	10000	99.8	90 - 110	P	03/17/2016	14:37	LB80581
	Beryllium	254.57	250	101.8	90 - 110	P	03/17/2016	14:37	LB80581
	Cadmium	2524.3	2500	101	90 - 110	P	03/17/2016	14:37	LB80581
	Calcium	24868	25000	99.5	90 - 110	P	03/17/2016	14:37	LB80581
	Chromium	989.74	1000	99	90 - 110	P	03/17/2016	14:37	LB80581
	Cobalt	2490.3	2500	99.6	90 - 110	P	03/17/2016	14:37	LB80581
	Copper	1262.4	1250	101	90 - 110	P	03/17/2016	14:37	LB80581
	Iron	5124.1	5000	102.5	90 - 110	P	03/17/2016	14:37	LB80581
	Lead	4959.7	5000	99.2	90 - 110	P	03/17/2016	14:37	LB80581
	Magnesium	24524	25000	98.1	90 - 110	P	03/17/2016	14:37	LB80581
	Manganese	2598.7	2500	103.9	90 - 110	P	03/17/2016	14:37	LB80581
	Nickel	2500.8	2500	100	90 - 110	P	03/17/2016	14:37	LB80581
	Potassium	24229	25000	96.9	90 - 110	P	03/17/2016	14:37	LB80581
	Selenium	5048.5	5000	101	90 - 110	P	03/17/2016	14:37	LB80581
	Silver	1237.2	1250	99	90 - 110	P	03/17/2016	14:37	LB80581
	Sodium	24788	25000	99.2	90 - 110	P	03/17/2016	14:37	LB80581
	Thallium	4997.2	5000	99.9	90 - 110	P	03/17/2016	14:37	LB80581
	Vanadium	2476.5	2500	99.1	90 - 110	P	03/17/2016	14:37	LB80581
	Zinc	2528.6	2500	101.1	90 - 110	P	03/17/2016	14:37	LB80581
CCV05	Aluminum	9822.9	10000	98.2	90 - 110	P	03/17/2016	15:25	LB80581
	Antimony	5004.8	5000	100.1	90 - 110	P	03/17/2016	15:25	LB80581
	Arsenic	4935.7	5000	98.7	90 - 110	P	03/17/2016	15:25	LB80581
	Barium	10008	10000	100.1	90 - 110	P	03/17/2016	15:25	LB80581
	Beryllium	254.61	250	101.8	90 - 110	P	03/17/2016	15:25	LB80581
	Cadmium	2518.1	2500	100.7	90 - 110	P	03/17/2016	15:25	LB80581
	Calcium	25064	25000	100.3	90 - 110	P	03/17/2016	15:25	LB80581
	Chromium	998.73	1000	99.9	90 - 110	P	03/17/2016	15:25	LB80581
	Cobalt	2501.2	2500	100	90 - 110	P	03/17/2016	15:25	LB80581
	Copper	1267.7	1250	101.4	90 - 110	P	03/17/2016	15:25	LB80581
	Iron	5188.8	5000	103.8	90 - 110	P	03/17/2016	15:25	LB80581
	Lead	4972	5000	99.4	90 - 110	P	03/17/2016	15:25	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Magnesium	24865	25000	99.5	90 - 110	P	03/17/2016	15:25	LB80581
	Manganese	2595.6	2500	103.8	90 - 110	P	03/17/2016	15:25	LB80581
	Nickel	2513.7	2500	100.5	90 - 110	P	03/17/2016	15:25	LB80581
	Potassium	24551	25000	98.2	90 - 110	P	03/17/2016	15:25	LB80581
	Selenium	5042.7	5000	100.9	90 - 110	P	03/17/2016	15:25	LB80581
	Silver	1240.5	1250	99.2	90 - 110	P	03/17/2016	15:25	LB80581
	Sodium	24908	25000	99.6	90 - 110	P	03/17/2016	15:25	LB80581
	Thallium	5022.1	5000	100.4	90 - 110	P	03/17/2016	15:25	LB80581
	Vanadium	2495.3	2500	99.8	90 - 110	P	03/17/2016	15:25	LB80581
	Zinc	2537.2	2500	101.5	90 - 110	P	03/17/2016	15:25	LB80581
CCV06	Aluminum	9864.4	10000	98.6	90 - 110	P	03/17/2016	16:13	LB80581
	Antimony	5083.8	5000	101.7	90 - 110	P	03/17/2016	16:13	LB80581
	Arsenic	5035.2	5000	100.7	90 - 110	P	03/17/2016	16:13	LB80581
	Barium	10224	10000	102.2	90 - 110	P	03/17/2016	16:13	LB80581
	Beryllium	256.17	250	102.5	90 - 110	P	03/17/2016	16:13	LB80581
	Cadmium	2557.2	2500	102.3	90 - 110	P	03/17/2016	16:13	LB80581
	Calcium	25420	25000	101.7	90 - 110	P	03/17/2016	16:13	LB80581
	Chromium	997.52	1000	99.8	90 - 110	P	03/17/2016	16:13	LB80581
	Cobalt	2533.6	2500	101.3	90 - 110	P	03/17/2016	16:13	LB80581
	Copper	1285.4	1250	102.8	90 - 110	P	03/17/2016	16:13	LB80581
	Iron	5175.7	5000	103.5	90 - 110	P	03/17/2016	16:13	LB80581
	Lead	5038.8	5000	100.8	90 - 110	P	03/17/2016	16:13	LB80581
	Magnesium	25246	25000	101	90 - 110	P	03/17/2016	16:13	LB80581
	Manganese	2617.1	2500	104.7	90 - 110	P	03/17/2016	16:13	LB80581
	Nickel	2544.4	2500	101.8	90 - 110	P	03/17/2016	16:13	LB80581
	Potassium	25049	25000	100.2	90 - 110	P	03/17/2016	16:13	LB80581
	Selenium	5148.7	5000	103	90 - 110	P	03/17/2016	16:13	LB80581
	Silver	1247.6	1250	99.8	90 - 110	P	03/17/2016	16:13	LB80581
	Sodium	25189	25000	100.8	90 - 110	P	03/17/2016	16:13	LB80581
	Thallium	5076	5000	101.5	90 - 110	P	03/17/2016	16:13	LB80581
	Vanadium	2520.4	2500	100.8	90 - 110	P	03/17/2016	16:13	LB80581
	Zinc	2586.6	2500	103.5	90 - 110	P	03/17/2016	16:13	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV03	Aluminum	114.4	100	114.4	70 - 130	P	03/17/2016	16:17	LB80581
	Antimony	52.28	50.0	104.6	70 - 130	P	03/17/2016	16:17	LB80581
	Arsenic	22.24	20.0	111.2	70 - 130	P	03/17/2016	16:17	LB80581
	Barium	112.18	100	112.2	70 - 130	P	03/17/2016	16:17	LB80581
	Beryllium	6.44	6.0	107.3	70 - 130	P	03/17/2016	16:17	LB80581
	Cadmium	7.75	6.0	129.2	70 - 130	P	03/17/2016	16:17	LB80581
	Calcium	2109.5	2000	105.5	70 - 130	P	03/17/2016	16:17	LB80581
	Chromium	10.82	10.0	108.2	70 - 130	P	03/17/2016	16:17	LB80581
	Cobalt	31.26	30.0	104.2	70 - 130	P	03/17/2016	16:17	LB80581
	Copper	21.55	20.0	107.8	70 - 130	P	03/17/2016	16:17	LB80581
	Iron	123.99	100	124	70 - 130	P	03/17/2016	16:17	LB80581
	Lead	15.14	12.0	126.2	70 - 130	P	03/17/2016	16:17	LB80581
	Magnesium	2055	2000	102.8	70 - 130	P	03/17/2016	16:17	LB80581
	Manganese	23.39	20.0	117	70 - 130	P	03/17/2016	16:17	LB80581
	Nickel	41.62	40.0	104.1	70 - 130	P	03/17/2016	16:17	LB80581
	Potassium	2072.7	2000	103.6	70 - 130	P	03/17/2016	16:17	LB80581
	Selenium	23.94	20.0	119.7	70 - 130	P	03/17/2016	16:17	LB80581
	Silver	11.02	10.0	110.2	70 - 130	P	03/17/2016	16:17	LB80581
	Sodium	2102.1	2000	105.1	70 - 130	P	03/17/2016	16:17	LB80581
	Thallium	44.75	40.0	111.9	70 - 130	P	03/17/2016	16:17	LB80581
	Vanadium	41.76	40.0	104.4	70 - 130	P	03/17/2016	16:17	LB80581
	Zinc	43.83	40.0	109.6	70 - 130	P	03/17/2016	16:17	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV07	Aluminum	9976.3	10000	99.8	90 - 110	P	03/17/2016	17:05	LB80581
	Antimony	5105.5	5000	102.1	90 - 110	P	03/17/2016	17:05	LB80581
	Arsenic	5035	5000	100.7	90 - 110	P	03/17/2016	17:05	LB80581
	Barium	10239	10000	102.4	90 - 110	P	03/17/2016	17:05	LB80581
	Beryllium	260.27	250	104.1	90 - 110	P	03/17/2016	17:05	LB80581
	Cadmium	2568.6	2500	102.7	90 - 110	P	03/17/2016	17:05	LB80581
	Calcium	25510	25000	102	90 - 110	P	03/17/2016	17:05	LB80581
	Chromium	1005.1	1000	100.5	90 - 110	P	03/17/2016	17:05	LB80581
	Cobalt	2544.4	2500	101.8	90 - 110	P	03/17/2016	17:05	LB80581
	Copper	1290.8	1250	103.3	90 - 110	P	03/17/2016	17:05	LB80581
	Iron	5247.5	5000	105	90 - 110	P	03/17/2016	17:05	LB80581
	Lead	5068.2	5000	101.4	90 - 110	P	03/17/2016	17:05	LB80581
	Magnesium	25308	25000	101.2	90 - 110	P	03/17/2016	17:05	LB80581
	Manganese	2645.8	2500	105.8	90 - 110	P	03/17/2016	17:05	LB80581
	Nickel	2551.8	2500	102.1	90 - 110	P	03/17/2016	17:05	LB80581
	Potassium	25176	25000	100.7	90 - 110	P	03/17/2016	17:05	LB80581
	Selenium	5159.9	5000	103.2	90 - 110	P	03/17/2016	17:05	LB80581
	Silver	1260.4	1250	100.8	90 - 110	P	03/17/2016	17:05	LB80581
	Sodium	25300	25000	101.2	90 - 110	P	03/17/2016	17:05	LB80581
	Thallium	5113.4	5000	102.3	90 - 110	P	03/17/2016	17:05	LB80581
	Vanadium	2541.1	2500	101.6	90 - 110	P	03/17/2016	17:05	LB80581
	Zinc	2640.4	2500	105.6	90 - 110	P	03/17/2016	17:05	LB80581
CCV08	Aluminum	9902.8	10000	99	90 - 110	P	03/17/2016	18:11	LB80581
	Antimony	5092	5000	101.8	90 - 110	P	03/17/2016	18:11	LB80581
	Arsenic	5061.2	5000	101.2	90 - 110	P	03/17/2016	18:11	LB80581
	Barium	10234	10000	102.3	90 - 110	P	03/17/2016	18:11	LB80581
	Beryllium	257.36	250	102.9	90 - 110	P	03/17/2016	18:11	LB80581
	Cadmium	2546.7	2500	101.9	90 - 110	P	03/17/2016	18:11	LB80581
	Calcium	25709	25000	102.8	90 - 110	P	03/17/2016	18:11	LB80581
	Chromium	1002.4	1000	100.2	90 - 110	P	03/17/2016	18:11	LB80581
	Cobalt	2529.1	2500	101.2	90 - 110	P	03/17/2016	18:11	LB80581
	Copper	1282.1	1250	102.6	90 - 110	P	03/17/2016	18:11	LB80581
	Iron	5280.1	5000	105.6	90 - 110	P	03/17/2016	18:11	LB80581
	Lead	5038	5000	100.8	90 - 110	P	03/17/2016	18:11	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV08	Magnesium	25450	25000	101.8	90 - 110	P	03/17/2016	18:11	LB80581
	Manganese	2618.9	2500	104.8	90 - 110	P	03/17/2016	18:11	LB80581
	Nickel	2530.9	2500	101.2	90 - 110	P	03/17/2016	18:11	LB80581
	Potassium	25525	25000	102.1	90 - 110	P	03/17/2016	18:11	LB80581
	Selenium	5128.1	5000	102.6	90 - 110	P	03/17/2016	18:11	LB80581
	Silver	1259.5	1250	100.8	90 - 110	P	03/17/2016	18:11	LB80581
	Sodium	25612	25000	102.4	90 - 110	P	03/17/2016	18:11	LB80581
	Thallium	5077	5000	101.5	90 - 110	P	03/17/2016	18:11	LB80581
	Vanadium	2542.9	2500	101.7	90 - 110	P	03/17/2016	18:11	LB80581
	Zinc	2685.4	2500	107.4	90 - 110	P	03/17/2016	18:11	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV04	Aluminum	113.8	100	113.8	70 - 130	P	03/17/2016	18:23	LB80581
	Antimony	51.68	50.0	103.4	70 - 130	P	03/17/2016	18:23	LB80581
	Arsenic	21.88	20.0	109.4	70 - 130	P	03/17/2016	18:23	LB80581
	Barium	111.5	100	111.5	70 - 130	P	03/17/2016	18:23	LB80581
	Beryllium	6.34	6.0	105.7	70 - 130	P	03/17/2016	18:23	LB80581
	Cadmium	7.46	6.0	124.3	70 - 130	P	03/17/2016	18:23	LB80581
	Calcium	2103	2000	105.2	70 - 130	P	03/17/2016	18:23	LB80581
	Chromium	10.53	10.0	105.3	70 - 130	P	03/17/2016	18:23	LB80581
	Cobalt	30.78	30.0	102.6	70 - 130	P	03/17/2016	18:23	LB80581
	Copper	21.35	20.0	106.8	70 - 130	P	03/17/2016	18:23	LB80581
	Iron	118.95	100	119	70 - 130	P	03/17/2016	18:23	LB80581
	Lead	15.56	12.0	129.7	70 - 130	P	03/17/2016	18:23	LB80581
	Magnesium	2095.6	2000	104.8	70 - 130	P	03/17/2016	18:23	LB80581
	Manganese	23.29	20.0	116.5	70 - 130	P	03/17/2016	18:23	LB80581
	Nickel	41.21	40.0	103	70 - 130	P	03/17/2016	18:23	LB80581
	Potassium	2070.7	2000	103.5	70 - 130	P	03/17/2016	18:23	LB80581
	Selenium	22.02	20.0	110.1	70 - 130	P	03/17/2016	18:23	LB80581
	Silver	11.19	10.0	111.9	70 - 130	P	03/17/2016	18:23	LB80581
	Sodium	2102.7	2000	105.1	70 - 130	P	03/17/2016	18:23	LB80581
	Thallium	42.29	40.0	105.7	70 - 130	P	03/17/2016	18:23	LB80581
	Vanadium	41.99	40.0	105	70 - 130	P	03/17/2016	18:23	LB80581
	Zinc	43.29	40.0	108.2	70 - 130	P	03/17/2016	18:23	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV09	Aluminum	9779.2	10000	97.8	90 - 110	P	03/17/2016	19:12	LB80581
	Antimony	5083.9	5000	101.7	90 - 110	P	03/17/2016	19:12	LB80581
	Arsenic	5064.2	5000	101.3	90 - 110	P	03/17/2016	19:12	LB80581
	Barium	10164	10000	101.6	90 - 110	P	03/17/2016	19:12	LB80581
	Beryllium	256.55	250	102.6	90 - 110	P	03/17/2016	19:12	LB80581
	Cadmium	2532.7	2500	101.3	90 - 110	P	03/17/2016	19:12	LB80581
	Calcium	25449	25000	101.8	90 - 110	P	03/17/2016	19:12	LB80581
	Chromium	996.33	1000	99.6	90 - 110	P	03/17/2016	19:12	LB80581
	Cobalt	2523.2	2500	100.9	90 - 110	P	03/17/2016	19:12	LB80581
	Copper	1277	1250	102.2	90 - 110	P	03/17/2016	19:12	LB80581
	Iron	5029.2	5000	100.6	90 - 110	P	03/17/2016	19:12	LB80581
	Lead	5009.4	5000	100.2	90 - 110	P	03/17/2016	19:12	LB80581
	Magnesium	25273	25000	101.1	90 - 110	P	03/17/2016	19:12	LB80581
	Manganese	2617.4	2500	104.7	90 - 110	P	03/17/2016	19:12	LB80581
	Nickel	2525.7	2500	101	90 - 110	P	03/17/2016	19:12	LB80581
	Potassium	25464	25000	101.9	90 - 110	P	03/17/2016	19:12	LB80581
	Selenium	5145.8	5000	102.9	90 - 110	P	03/17/2016	19:12	LB80581
	Silver	1253.6	1250	100.3	90 - 110	P	03/17/2016	19:12	LB80581
	Sodium	25279	25000	101.1	90 - 110	P	03/17/2016	19:12	LB80581
	Thallium	5042.6	5000	100.9	90 - 110	P	03/17/2016	19:12	LB80581
	Vanadium	2544.3	2500	101.8	90 - 110	P	03/17/2016	19:12	LB80581
	Zinc	2533.2	2500	101.3	90 - 110	P	03/17/2016	19:12	LB80581
CCV10	Aluminum	9751.8	10000	97.5	90 - 110	P	03/17/2016	20:01	LB80581
	Antimony	5008.9	5000	100.2	90 - 110	P	03/17/2016	20:01	LB80581
	Arsenic	4964.7	5000	99.3	90 - 110	P	03/17/2016	20:01	LB80581
	Barium	10026	10000	100.3	90 - 110	P	03/17/2016	20:01	LB80581
	Beryllium	253.39	250	101.4	90 - 110	P	03/17/2016	20:01	LB80581
	Cadmium	2519.6	2500	100.8	90 - 110	P	03/17/2016	20:01	LB80581
	Calcium	25121	25000	100.5	90 - 110	P	03/17/2016	20:01	LB80581
	Chromium	989.41	1000	98.9	90 - 110	P	03/17/2016	20:01	LB80581
	Cobalt	2502.3	2500	100.1	90 - 110	P	03/17/2016	20:01	LB80581
	Copper	1265.3	1250	101.2	90 - 110	P	03/17/2016	20:01	LB80581
	Iron	5048.4	5000	101	90 - 110	P	03/17/2016	20:01	LB80581
	Lead	4987.2	5000	99.7	90 - 110	P	03/17/2016	20:01	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV10	Magnesium	24890	25000	99.6	90 - 110	P	03/17/2016	20:01	LB80581
	Manganese	2580.8	2500	103.2	90 - 110	P	03/17/2016	20:01	LB80581
	Nickel	2507.3	2500	100.3	90 - 110	P	03/17/2016	20:01	LB80581
	Potassium	24822	25000	99.3	90 - 110	P	03/17/2016	20:01	LB80581
	Selenium	5045.1	5000	100.9	90 - 110	P	03/17/2016	20:01	LB80581
	Silver	1244.7	1250	99.6	90 - 110	P	03/17/2016	20:01	LB80581
	Sodium	24834	25000	99.3	90 - 110	P	03/17/2016	20:01	LB80581
	Thallium	5029.3	5000	100.6	90 - 110	P	03/17/2016	20:01	LB80581
	Vanadium	2507.3	2500	100.3	90 - 110	P	03/17/2016	20:01	LB80581
	Zinc	2563.3	2500	102.5	90 - 110	P	03/17/2016	20:01	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV05	Aluminum	107.6	100	107.6	70 - 130	P	03/17/2016	20:05	LB80581
	Antimony	50.31	50.0	100.6	70 - 130	P	03/17/2016	20:05	LB80581
	Arsenic	22.69	20.0	113.5	70 - 130	P	03/17/2016	20:05	LB80581
	Barium	108.53	100	108.5	70 - 130	P	03/17/2016	20:05	LB80581
	Beryllium	6.15	6.0	102.5	70 - 130	P	03/17/2016	20:05	LB80581
	Cadmium	7.37	6.0	122.8	70 - 130	P	03/17/2016	20:05	LB80581
	Calcium	2064.1	2000	103.2	70 - 130	P	03/17/2016	20:05	LB80581
	Chromium	10.17	10.0	101.7	70 - 130	P	03/17/2016	20:05	LB80581
	Cobalt	30.33	30.0	101.1	70 - 130	P	03/17/2016	20:05	LB80581
	Copper	20.69	20.0	103.5	70 - 130	P	03/17/2016	20:05	LB80581
	Iron	121.6	100	121.6	70 - 130	P	03/17/2016	20:05	LB80581
	Lead	15.53	12.0	129.4	70 - 130	P	03/17/2016	20:05	LB80581
	Magnesium	2049.3	2000	102.5	70 - 130	P	03/17/2016	20:05	LB80581
	Manganese	22.55	20.0	112.8	70 - 130	P	03/17/2016	20:05	LB80581
	Nickel	40.21	40.0	100.5	70 - 130	P	03/17/2016	20:05	LB80581
	Potassium	2033.9	2000	101.7	70 - 130	P	03/17/2016	20:05	LB80581
	Selenium	21.98	20.0	109.9	70 - 130	P	03/17/2016	20:05	LB80581
	Silver	10.54	10.0	105.4	70 - 130	P	03/17/2016	20:05	LB80581
	Sodium	2078.8	2000	103.9	70 - 130	P	03/17/2016	20:05	LB80581
	Thallium	41.76	40.0	104.4	70 - 130	P	03/17/2016	20:05	LB80581
	Vanadium	41.12	40.0	102.8	70 - 130	P	03/17/2016	20:05	LB80581
	Zinc	42.62	40.0	106.6	70 - 130	P	03/17/2016	20:05	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV11	Aluminum	9817.8	10000	98.2	90 - 110	P	03/17/2016	20:53	LB80581
	Antimony	5007.8	5000	100.2	90 - 110	P	03/17/2016	20:53	LB80581
	Arsenic	4969.2	5000	99.4	90 - 110	P	03/17/2016	20:53	LB80581
	Barium	10101	10000	101	90 - 110	P	03/17/2016	20:53	LB80581
	Beryllium	255.25	250	102.1	90 - 110	P	03/17/2016	20:53	LB80581
	Cadmium	2522.1	2500	100.9	90 - 110	P	03/17/2016	20:53	LB80581
	Calcium	25274	25000	101.1	90 - 110	P	03/17/2016	20:53	LB80581
	Chromium	999.71	1000	100	90 - 110	P	03/17/2016	20:53	LB80581
	Cobalt	2505.6	2500	100.2	90 - 110	P	03/17/2016	20:53	LB80581
	Copper	1264	1250	101.1	90 - 110	P	03/17/2016	20:53	LB80581
	Iron	4964.4	5000	99.3	90 - 110	P	03/17/2016	20:53	LB80581
	Lead	4994.1	5000	99.9	90 - 110	P	03/17/2016	20:53	LB80581
	Magnesium	25074	25000	100.3	90 - 110	P	03/17/2016	20:53	LB80581
	Manganese	2594.6	2500	103.8	90 - 110	P	03/17/2016	20:53	LB80581
	Nickel	2509.5	2500	100.4	90 - 110	P	03/17/2016	20:53	LB80581
	Potassium	24981	25000	99.9	90 - 110	P	03/17/2016	20:53	LB80581
	Selenium	5050.4	5000	101	90 - 110	P	03/17/2016	20:53	LB80581
	Silver	1252.5	1250	100.2	90 - 110	P	03/17/2016	20:53	LB80581
	Sodium	25013	25000	100.1	90 - 110	P	03/17/2016	20:53	LB80581
	Thallium	5033.4	5000	100.7	90 - 110	P	03/17/2016	20:53	LB80581
	Vanadium	2521.9	2500	100.9	90 - 110	P	03/17/2016	20:53	LB80581
	Zinc	2518.3	2500	100.7	90 - 110	P	03/17/2016	20:53	LB80581
CCV12	Aluminum	10064	10000	100.6	90 - 110	P	03/17/2016	21:41	LB80581
	Antimony	5135.7	5000	102.7	90 - 110	P	03/17/2016	21:41	LB80581
	Arsenic	5109.9	5000	102.2	90 - 110	P	03/17/2016	21:41	LB80581
	Barium	10247	10000	102.5	90 - 110	P	03/17/2016	21:41	LB80581
	Beryllium	259.75	250	103.9	90 - 110	P	03/17/2016	21:41	LB80581
	Cadmium	2578.9	2500	103.2	90 - 110	P	03/17/2016	21:41	LB80581
	Calcium	25774	25000	103.1	90 - 110	P	03/17/2016	21:41	LB80581
	Chromium	1023.4	1000	102.3	90 - 110	P	03/17/2016	21:41	LB80581
	Cobalt	2566.6	2500	102.7	90 - 110	P	03/17/2016	21:41	LB80581
	Copper	1295.5	1250	103.6	90 - 110	P	03/17/2016	21:41	LB80581
	Iron	5109.9	5000	102.2	90 - 110	P	03/17/2016	21:41	LB80581
	Lead	5116	5000	102.3	90 - 110	P	03/17/2016	21:41	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV12	Magnesium	25587	25000	102.3	90 - 110	P	03/17/2016	21:41	LB80581
	Manganese	2639.2	2500	105.6	90 - 110	P	03/17/2016	21:41	LB80581
	Nickel	2574.3	2500	103	90 - 110	P	03/17/2016	21:41	LB80581
	Potassium	25573	25000	102.3	90 - 110	P	03/17/2016	21:41	LB80581
	Selenium	5163.8	5000	103.3	90 - 110	P	03/17/2016	21:41	LB80581
	Silver	1278.9	1250	102.3	90 - 110	P	03/17/2016	21:41	LB80581
	Sodium	25455	25000	101.8	90 - 110	P	03/17/2016	21:41	LB80581
	Thallium	5154.4	5000	103.1	90 - 110	P	03/17/2016	21:41	LB80581
	Vanadium	2584	2500	103.4	90 - 110	P	03/17/2016	21:41	LB80581
	Zinc	2597.8	2500	103.9	90 - 110	P	03/17/2016	21:41	LB80581
CCV13	Aluminum	10098	10000	101	90 - 110	P	03/17/2016	22:09	LB80581
	Antimony	5190.1	5000	103.8	90 - 110	P	03/17/2016	22:09	LB80581
	Arsenic	5174.5	5000	103.5	90 - 110	P	03/17/2016	22:09	LB80581
	Barium	10414	10000	104.1	90 - 110	P	03/17/2016	22:09	LB80581
	Beryllium	262.24	250	104.9	90 - 110	P	03/17/2016	22:09	LB80581
	Cadmium	2604.2	2500	104.2	90 - 110	P	03/17/2016	22:09	LB80581
	Calcium	26036	25000	104.1	90 - 110	P	03/17/2016	22:09	LB80581
	Chromium	1032.8	1000	103.3	90 - 110	P	03/17/2016	22:09	LB80581
	Cobalt	2599.1	2500	104	90 - 110	P	03/17/2016	22:09	LB80581
	Copper	1306.8	1250	104.5	90 - 110	P	03/17/2016	22:09	LB80581
	Iron	5170.1	5000	103.4	90 - 110	P	03/17/2016	22:09	LB80581
	Lead	5184.3	5000	103.7	90 - 110	P	03/17/2016	22:09	LB80581
	Magnesium	25908	25000	103.6	90 - 110	P	03/17/2016	22:09	LB80581
	Manganese	2659.2	2500	106.4	90 - 110	P	03/17/2016	22:09	LB80581
	Nickel	2600.3	2500	104	90 - 110	P	03/17/2016	22:09	LB80581
	Potassium	25868	25000	103.5	90 - 110	P	03/17/2016	22:09	LB80581
	Selenium	5212.2	5000	104.2	90 - 110	P	03/17/2016	22:09	LB80581
	Silver	1291.8	1250	103.3	90 - 110	P	03/17/2016	22:09	LB80581
	Sodium	25695	25000	102.8	90 - 110	P	03/17/2016	22:09	LB80581
	Thallium	5212.1	5000	104.2	90 - 110	P	03/17/2016	22:09	LB80581
	Vanadium	2603.7	2500	104.1	90 - 110	P	03/17/2016	22:09	LB80581
	Zinc	2624.5	2500	105	90 - 110	P	03/17/2016	22:09	LB80581

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2527.5	2521	100.3	90 - 110	P	03/18/2016	11:44	LB80614
	Antimony	993.16	994	99.9	90 - 110	P	03/18/2016	11:44	LB80614
	Arsenic	1033.8	999	103.5	90 - 110	P	03/18/2016	11:44	LB80614
	Barium	504.86	503	100.4	90 - 110	P	03/18/2016	11:44	LB80614
	Beryllium	500.49	495	101.1	90 - 110	P	03/18/2016	11:44	LB80614
	Cadmium	494.37	496	99.7	90 - 110	P	03/18/2016	11:44	LB80614
	Calcium	10385	10026	103.6	90 - 110	P	03/18/2016	11:44	LB80614
	Chromium	514.18	490	104.9	90 - 110	P	03/18/2016	11:44	LB80614
	Cobalt	500.81	499	100.4	90 - 110	P	03/18/2016	11:44	LB80614
	Copper	523.62	492	106.4	90 - 110	P	03/18/2016	11:44	LB80614
	Iron	5118.2	5082	100.7	90 - 110	P	03/18/2016	11:44	LB80614
	Lead	1004.9	1002	100.3	90 - 110	P	03/18/2016	11:44	LB80614
	Magnesium	6273.1	6074	103.3	90 - 110	P	03/18/2016	11:44	LB80614
	Manganese	522.54	499	104.7	90 - 110	P	03/18/2016	11:44	LB80614
	Nickel	499.99	503	99.4	90 - 110	P	03/18/2016	11:44	LB80614
	Potassium	10138	10021	101.2	90 - 110	P	03/18/2016	11:44	LB80614
	Selenium	1023	1029	99.4	90 - 110	P	03/18/2016	11:44	LB80614
	Silver	463.99	501	92.6	90 - 110	P	03/18/2016	11:44	LB80614
	Sodium	10296	10097	102	90 - 110	P	03/18/2016	11:44	LB80614
	Thallium	1038.8	1028	101.1	90 - 110	P	03/18/2016	11:44	LB80614
	Vanadium	509.74	501	101.7	90 - 110	P	03/18/2016	11:44	LB80614
	Zinc	1050	1025	102.4	90 - 110	P	03/18/2016	11:44	LB80614

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	104.37	100	104.4	70 - 130	P	03/18/2016	11:55	LB80614
	Antimony	52.39	50.0	104.8	70 - 130	P	03/18/2016	11:55	LB80614
	Arsenic	22.47	20.0	112.4	70 - 130	P	03/18/2016	11:55	LB80614
	Barium	97.83	100	97.8	70 - 130	P	03/18/2016	11:55	LB80614
	Beryllium	6.28	6.0	104.7	70 - 130	P	03/18/2016	11:55	LB80614
	Cadmium	6.43	6.0	107.2	70 - 130	P	03/18/2016	11:55	LB80614
	Calcium	2079.2	2000	104	70 - 130	P	03/18/2016	11:55	LB80614
	Chromium	10.46	10.0	104.6	70 - 130	P	03/18/2016	11:55	LB80614
	Cobalt	29.28	30.0	97.6	70 - 130	P	03/18/2016	11:55	LB80614
	Copper	20.79	20.0	104	70 - 130	P	03/18/2016	11:55	LB80614
	Iron	105.74	100	105.7	70 - 130	P	03/18/2016	11:55	LB80614
	Lead	13.35	12.0	111.3	70 - 130	P	03/18/2016	11:55	LB80614
	Magnesium	2086.6	2000	104.3	70 - 130	P	03/18/2016	11:55	LB80614
	Manganese	20.97	20.0	104.9	70 - 130	P	03/18/2016	11:55	LB80614
	Nickel	39.28	40.0	98.2	70 - 130	P	03/18/2016	11:55	LB80614
	Potassium	2005.2	2000	100.3	70 - 130	P	03/18/2016	11:55	LB80614
	Selenium	19.8	20.0	99	70 - 130	P	03/18/2016	11:55	LB80614
	Silver	9.67	10.0	96.7	70 - 130	P	03/18/2016	11:55	LB80614
	Sodium	2071.8	2000	103.6	70 - 130	P	03/18/2016	11:55	LB80614
	Thallium	39.75	40.0	99.4	70 - 130	P	03/18/2016	11:55	LB80614
	Vanadium	40.59	40.0	101.5	70 - 130	P	03/18/2016	11:55	LB80614
	Zinc	41.81	40.0	104.5	70 - 130	P	03/18/2016	11:55	LB80614

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	9821.8	10000	98.2	90 - 110	P	03/18/2016	12:23	LB80614
	Antimony	4917.3	5000	98.3	90 - 110	P	03/18/2016	12:23	LB80614
	Arsenic	4885.2	5000	97.7	90 - 110	P	03/18/2016	12:23	LB80614
	Barium	9454.3	10000	94.5	90 - 110	P	03/18/2016	12:23	LB80614
	Beryllium	252.4	250	101	90 - 110	P	03/18/2016	12:23	LB80614
	Cadmium	2482.3	2500	99.3	90 - 110	P	03/18/2016	12:23	LB80614
	Calcium	24778	25000	99.1	90 - 110	P	03/18/2016	12:23	LB80614
	Chromium	967.13	1000	96.7	90 - 110	P	03/18/2016	12:23	LB80614
	Cobalt	2462.7	2500	98.5	90 - 110	P	03/18/2016	12:23	LB80614
	Copper	1243.5	1250	99.5	90 - 110	P	03/18/2016	12:23	LB80614
	Iron	5022.9	5000	100.5	90 - 110	P	03/18/2016	12:23	LB80614
	Lead	4911.8	5000	98.2	90 - 110	P	03/18/2016	12:23	LB80614
	Magnesium	24562	25000	98.2	90 - 110	P	03/18/2016	12:23	LB80614
	Manganese	2476.6	2500	99.1	90 - 110	P	03/18/2016	12:23	LB80614
	Nickel	2477.9	2500	99.1	90 - 110	P	03/18/2016	12:23	LB80614
	Potassium	23584	25000	94.3	90 - 110	P	03/18/2016	12:23	LB80614
	Selenium	4973.3	5000	99.5	90 - 110	P	03/18/2016	12:23	LB80614
	Silver	1230.9	1250	98.5	90 - 110	P	03/18/2016	12:23	LB80614
	Sodium	24593	25000	98.4	90 - 110	P	03/18/2016	12:23	LB80614
	Thallium	4929.6	5000	98.6	90 - 110	P	03/18/2016	12:23	LB80614
	Vanadium	2487.2	2500	99.5	90 - 110	P	03/18/2016	12:23	LB80614
	Zinc	2506.3	2500	100.3	90 - 110	P	03/18/2016	12:23	LB80614

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Aluminum	110.1	100	110.1	70 - 130	P	03/18/2016	12:27	LB80614
	Antimony	51.35	50.0	102.7	70 - 130	P	03/18/2016	12:27	LB80614
	Arsenic	22.16	20.0	110.8	70 - 130	P	03/18/2016	12:27	LB80614
	Barium	94.89	100	94.9	70 - 130	P	03/18/2016	12:27	LB80614
	Beryllium	6.27	6.0	104.5	70 - 130	P	03/18/2016	12:27	LB80614
	Cadmium	6.89	6.0	114.8	70 - 130	P	03/18/2016	12:27	LB80614
	Calcium	2063.1	2000	103.2	70 - 130	P	03/18/2016	12:27	LB80614
	Chromium	9.66	10.0	96.6	70 - 130	P	03/18/2016	12:27	LB80614
	Cobalt	29.45	30.0	98.2	70 - 130	P	03/18/2016	12:27	LB80614
	Copper	20.66	20.0	103.3	70 - 130	P	03/18/2016	12:27	LB80614
	Iron	123.83	100	123.8	70 - 130	P	03/18/2016	12:27	LB80614
	Lead	13.2	12.0	110	70 - 130	P	03/18/2016	12:27	LB80614
	Magnesium	2064.3	2000	103.2	70 - 130	P	03/18/2016	12:27	LB80614
	Manganese	20.63	20.0	103.2	70 - 130	P	03/18/2016	12:27	LB80614
	Nickel	39.58	40.0	99	70 - 130	P	03/18/2016	12:27	LB80614
	Potassium	1944.3	2000	97.2	70 - 130	P	03/18/2016	12:27	LB80614
	Selenium	23.66	20.0	118.3	70 - 130	P	03/18/2016	12:27	LB80614
	Silver	9.93	10.0	99.3	70 - 130	P	03/18/2016	12:27	LB80614
	Sodium	2042.3	2000	102.1	70 - 130	P	03/18/2016	12:27	LB80614
	Thallium	42.42	40.0	106.1	70 - 130	P	03/18/2016	12:27	LB80614
	Vanadium	40.53	40.0	101.3	70 - 130	P	03/18/2016	12:27	LB80614
	Zinc	43.01	40.0	107.5	70 - 130	P	03/18/2016	12:27	LB80614

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Aluminum	10103	10000	101	90 - 110	P	03/18/2016	13:44	LB80614
	Antimony	4919.8	5000	98.4	90 - 110	P	03/18/2016	13:44	LB80614
	Arsenic	4770.4	5000	95.4	90 - 110	P	03/18/2016	13:44	LB80614
	Barium	9338.8	10000	93.4	90 - 110	P	03/18/2016	13:44	LB80614
	Beryllium	256.75	250	102.7	90 - 110	P	03/18/2016	13:44	LB80614
	Cadmium	2527.3	2500	101.1	90 - 110	P	03/18/2016	13:44	LB80614
	Calcium	24497	25000	98	90 - 110	P	03/18/2016	13:44	LB80614
	Chromium	990.35	1000	99	90 - 110	P	03/18/2016	13:44	LB80614
	Cobalt	2477.6	2500	99.1	90 - 110	P	03/18/2016	13:44	LB80614
	Copper	1246.7	1250	99.7	90 - 110	P	03/18/2016	13:44	LB80614
	Iron	5091.5	5000	101.8	90 - 110	P	03/18/2016	13:44	LB80614
	Lead	4939.6	5000	98.8	90 - 110	P	03/18/2016	13:44	LB80614
	Magnesium	24250	25000	97	90 - 110	P	03/18/2016	13:44	LB80614
	Manganese	2512.8	2500	100.5	90 - 110	P	03/18/2016	13:44	LB80614
	Nickel	2499.3	2500	100	90 - 110	P	03/18/2016	13:44	LB80614
	Potassium	22688	25000	90.8	90 - 110	P	03/18/2016	13:44	LB80614
	Selenium	4981.9	5000	99.6	90 - 110	P	03/18/2016	13:44	LB80614
	Silver	1234.7	1250	98.8	90 - 110	P	03/18/2016	13:44	LB80614
	Sodium	24351	25000	97.4	90 - 110	P	03/18/2016	13:44	LB80614
	Thallium	4975.2	5000	99.5	90 - 110	P	03/18/2016	13:44	LB80614
	Vanadium	2463.8	2500	98.6	90 - 110	P	03/18/2016	13:44	LB80614
	Zinc	2499.1	2500	100	90 - 110	P	03/18/2016	13:44	LB80614
CCV03	Aluminum	9755.5	10000	97.6	90 - 110	P	03/18/2016	14:47	LB80614
	Antimony	4897.1	5000	97.9	90 - 110	P	03/18/2016	14:47	LB80614
	Arsenic	4775	5000	95.5	90 - 110	P	03/18/2016	14:47	LB80614
	Barium	9284.6	10000	92.8	90 - 110	P	03/18/2016	14:47	LB80614
	Beryllium	255.95	250	102.4	90 - 110	P	03/18/2016	14:47	LB80614
	Cadmium	2533.2	2500	101.3	90 - 110	P	03/18/2016	14:47	LB80614
	Calcium	24595	25000	98.4	90 - 110	P	03/18/2016	14:47	LB80614
	Chromium	979.31	1000	97.9	90 - 110	P	03/18/2016	14:47	LB80614
	Cobalt	2482	2500	99.3	90 - 110	P	03/18/2016	14:47	LB80614
	Copper	1244.7	1250	99.6	90 - 110	P	03/18/2016	14:47	LB80614
	Iron	5186.8	5000	103.7	90 - 110	P	03/18/2016	14:47	LB80614
	Lead	4940	5000	98.8	90 - 110	P	03/18/2016	14:47	LB80614

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV03	Magnesium	24330	25000	97.3	90 - 110	P	03/18/2016	14:47	LB80614
	Manganese	2486.5	2500	99.5	90 - 110	P	03/18/2016	14:47	LB80614
	Nickel	2502.2	2500	100.1	90 - 110	P	03/18/2016	14:47	LB80614
	Potassium	24433	25000	97.7	90 - 110	P	03/18/2016	14:47	LB80614
	Selenium	4969.5	5000	99.4	90 - 110	P	03/18/2016	14:47	LB80614
	Silver	1225.7	1250	98.1	90 - 110	P	03/18/2016	14:47	LB80614
	Sodium	24306	25000	97.2	90 - 110	P	03/18/2016	14:47	LB80614
	Thallium	4977.9	5000	99.6	90 - 110	P	03/18/2016	14:47	LB80614
	Vanadium	2456.8	2500	98.3	90 - 110	P	03/18/2016	14:47	LB80614
	Zinc	2578.5	2500	103.1	90 - 110	P	03/18/2016	14:47	LB80614
CCV04	Aluminum	9876.3	10000	98.8	90 - 110	P	03/18/2016	16:19	LB80614
	Antimony	4974	5000	99.5	90 - 110	P	03/18/2016	16:19	LB80614
	Arsenic	4828.4	5000	96.6	90 - 110	P	03/18/2016	16:19	LB80614
	Barium	9387	10000	93.9	90 - 110	P	03/18/2016	16:19	LB80614
	Beryllium	260.39	250	104.2	90 - 110	P	03/18/2016	16:19	LB80614
	Cadmium	2572.7	2500	102.9	90 - 110	P	03/18/2016	16:19	LB80614
	Calcium	24764	25000	99.1	90 - 110	P	03/18/2016	16:19	LB80614
	Chromium	990.69	1000	99.1	90 - 110	P	03/18/2016	16:19	LB80614
	Cobalt	2519.7	2500	100.8	90 - 110	P	03/18/2016	16:19	LB80614
	Copper	1260	1250	100.8	90 - 110	P	03/18/2016	16:19	LB80614
	Iron	5183	5000	103.7	90 - 110	P	03/18/2016	16:19	LB80614
	Lead	5014.7	5000	100.3	90 - 110	P	03/18/2016	16:19	LB80614
	Magnesium	24421	25000	97.7	90 - 110	P	03/18/2016	16:19	LB80614
	Manganese	2518.2	2500	100.7	90 - 110	P	03/18/2016	16:19	LB80614
	Nickel	2538.6	2500	101.5	90 - 110	P	03/18/2016	16:19	LB80614
	Potassium	24668	25000	98.7	90 - 110	P	03/18/2016	16:19	LB80614
	Selenium	5052	5000	101	90 - 110	P	03/18/2016	16:19	LB80614
	Silver	1241.3	1250	99.3	90 - 110	P	03/18/2016	16:19	LB80614
	Sodium	24485	25000	97.9	90 - 110	P	03/18/2016	16:19	LB80614
	Thallium	5056.5	5000	101.1	90 - 110	P	03/18/2016	16:19	LB80614
	Vanadium	2482.2	2500	99.3	90 - 110	P	03/18/2016	16:19	LB80614
	Zinc	2584.5	2500	103.4	90 - 110	P	03/18/2016	16:19	LB80614
CCV05	Aluminum	9688.8	10000	96.9	90 - 110	P	03/18/2016	17:08	LB80614
	Antimony	4879.6	5000	97.6	90 - 110	P	03/18/2016	17:08	LB80614

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Arsenic	4750.1	5000	95	90 - 110	P	03/18/2016	17:08	LB80614
	Barium	9154.4	10000	91.5	90 - 110	P	03/18/2016	17:08	LB80614
	Beryllium	253.67	250	101.5	90 - 110	P	03/18/2016	17:08	LB80614
	Cadmium	2522.5	2500	100.9	90 - 110	P	03/18/2016	17:08	LB80614
	Calcium	24439	25000	97.8	90 - 110	P	03/18/2016	17:08	LB80614
	Chromium	967.64	1000	96.8	90 - 110	P	03/18/2016	17:08	LB80614
	Cobalt	2468.9	2500	98.8	90 - 110	P	03/18/2016	17:08	LB80614
	Copper	1235.3	1250	98.8	90 - 110	P	03/18/2016	17:08	LB80614
	Iron	5160.1	5000	103.2	90 - 110	P	03/18/2016	17:08	LB80614
	Lead	4911.8	5000	98.2	90 - 110	P	03/18/2016	17:08	LB80614
	Magnesium	24071	25000	96.3	90 - 110	P	03/18/2016	17:08	LB80614
	Manganese	2457.9	2500	98.3	90 - 110	P	03/18/2016	17:08	LB80614
	Nickel	2487.6	2500	99.5	90 - 110	P	03/18/2016	17:08	LB80614
	Potassium	24304	25000	97.2	90 - 110	P	03/18/2016	17:08	LB80614
	Selenium	4962.1	5000	99.2	90 - 110	P	03/18/2016	17:08	LB80614
	Silver	1213.9	1250	97.1	90 - 110	P	03/18/2016	17:08	LB80614
	Sodium	24161	25000	96.6	90 - 110	P	03/18/2016	17:08	LB80614
	Thallium	4952.4	5000	99	90 - 110	P	03/18/2016	17:08	LB80614
	Vanadium	2430.1	2500	97.2	90 - 110	P	03/18/2016	17:08	LB80614
	Zinc	2558.1	2500	102.3	90 - 110	P	03/18/2016	17:08	LB80614

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV02	Aluminum	111.23	100	111.2	70 - 130	P	03/18/2016	17:12	LB80614
	Antimony	51.35	50.0	102.7	70 - 130	P	03/18/2016	17:12	LB80614
	Arsenic	21.43	20.0	107.2	70 - 130	P	03/18/2016	17:12	LB80614
	Barium	86.36	100	86.4	70 - 130	P	03/18/2016	17:12	LB80614
	Beryllium	6.09	6.0	101.5	70 - 130	P	03/18/2016	17:12	LB80614
	Cadmium	6.57	6.0	109.5	70 - 130	P	03/18/2016	17:12	LB80614
	Calcium	1988.2	2000	99.4	70 - 130	P	03/18/2016	17:12	LB80614
	Chromium	9.55	10.0	95.5	70 - 130	P	03/18/2016	17:12	LB80614
	Cobalt	28.68	30.0	95.6	70 - 130	P	03/18/2016	17:12	LB80614
	Copper	19.58	20.0	97.9	70 - 130	P	03/18/2016	17:12	LB80614
	Iron	115.28	100	115.3	70 - 130	P	03/18/2016	17:12	LB80614
	Lead	14.11	12.0	117.6	70 - 130	P	03/18/2016	17:12	LB80614
	Magnesium	1976.6	2000	98.8	70 - 130	P	03/18/2016	17:12	LB80614
	Manganese	19.91	20.0	99.6	70 - 130	P	03/18/2016	17:12	LB80614
	Nickel	38.91	40.0	97.3	70 - 130	P	03/18/2016	17:12	LB80614
	Potassium	1848.3	2000	92.4	70 - 130	P	03/18/2016	17:12	LB80614
	Selenium	19.56	20.0	97.8	70 - 130	P	03/18/2016	17:12	LB80614
	Silver	9.65	10.0	96.5	70 - 130	P	03/18/2016	17:12	LB80614
	Sodium	2042.9	2000	102.1	70 - 130	P	03/18/2016	17:12	LB80614
	Thallium	38.34	40.0	95.9	70 - 130	P	03/18/2016	17:12	LB80614
	Vanadium	39.19	40.0	98	70 - 130	P	03/18/2016	17:12	LB80614
	Zinc	41.51	40.0	103.8	70 - 130	P	03/18/2016	17:12	LB80614

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Metals

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CRDL STANDARD FOR AA & ICP

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRA	Mercury	0.1449	0.2	72.5	40 - 160	CV	03/16/2016	14:17	LB80559
CRI01	Aluminum	94.31	100	94.3	40 - 160	P	03/17/2016	11:47	LB80581
	Antimony	48.23	50.0	96.5	40 - 160	P	03/17/2016	11:47	LB80581
	Arsenic	19.68	20.0	98.4	40 - 160	P	03/17/2016	11:47	LB80581
	Barium	101.63	100	101.6	40 - 160	P	03/17/2016	11:47	LB80581
	Beryllium	5.98	6.0	99.7	40 - 160	P	03/17/2016	11:47	LB80581
	Cadmium	5.68	6.0	94.7	40 - 160	P	03/17/2016	11:47	LB80581
	Calcium	2032.9	2000	101.6	40 - 160	P	03/17/2016	11:47	LB80581
	Chromium	9.99	10.0	99.9	40 - 160	P	03/17/2016	11:47	LB80581
	Cobalt	28.53	30.0	95.1	40 - 160	P	03/17/2016	11:47	LB80581
	Copper	20.27	20.0	101.4	40 - 160	P	03/17/2016	11:47	LB80581
	Iron	98.77	100	98.8	40 - 160	P	03/17/2016	11:47	LB80581
	Lead	12.69	12.0	105.8	40 - 160	P	03/17/2016	11:47	LB80581
	Magnesium	2009.6	2000	100.5	40 - 160	P	03/17/2016	11:47	LB80581
	Manganese	20.81	20.0	104.1	40 - 160	P	03/17/2016	11:47	LB80581
	Nickel	38.6	40.0	96.5	40 - 160	P	03/17/2016	11:47	LB80581
	Potassium	1979.6	2000	99	40 - 160	P	03/17/2016	11:47	LB80581
	Selenium	19.44	20.0	97.2	40 - 160	P	03/17/2016	11:47	LB80581
	Silver	10.54	10.0	105.4	40 - 160	P	03/17/2016	11:47	LB80581
	Sodium	1998.5	2000	99.9	40 - 160	P	03/17/2016	11:47	LB80581
	Thallium	37.29	40.0	93.2	40 - 160	P	03/17/2016	11:47	LB80581
	Vanadium	39.41	40.0	98.5	40 - 160	P	03/17/2016	11:47	LB80581
	Zinc	40.08	40.0	100.2	40 - 160	P	03/17/2016	11:47	LB80581
CRA	Mercury	0.1578	0.2	78.9	40 - 160	CV	03/17/2016	12:03	LB80576
CRI01	Aluminum	110.65	100	110.7	40 - 160	P	03/18/2016	12:03	LB80614
	Antimony	51.11	50.0	102.2	40 - 160	P	03/18/2016	12:03	LB80614
	Arsenic	20.93	20.0	104.7	40 - 160	P	03/18/2016	12:03	LB80614
	Barium	96	100	96	40 - 160	P	03/18/2016	12:03	LB80614
	Beryllium	6.27	6.0	104.5	40 - 160	P	03/18/2016	12:03	LB80614
	Cadmium	6.32	6.0	105.3	40 - 160	P	03/18/2016	12:03	LB80614
	Calcium	2056.4	2000	102.8	40 - 160	P	03/18/2016	12:03	LB80614
	Chromium	10.13	10.0	101.3	40 - 160	P	03/18/2016	12:03	LB80614
	Cobalt	29.07	30.0	96.9	40 - 160	P	03/18/2016	12:03	LB80614
	Copper	20.9	20.0	104.5	40 - 160	P	03/18/2016	12:03	LB80614
	Iron	115.19	100	115.2	40 - 160	P	03/18/2016	12:03	LB80614

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Metals

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CRDL STANDARD FOR AA & ICP

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Lead	13	12.0	108.3	40 - 160	P	03/18/2016	12:03	LB80614
	Magnesium	2042.8	2000	102.1	40 - 160	P	03/18/2016	12:03	LB80614
	Manganese	20.74	20.0	103.7	40 - 160	P	03/18/2016	12:03	LB80614
	Nickel	39.11	40.0	97.8	40 - 160	P	03/18/2016	12:03	LB80614
	Potassium	1991.2	2000	99.6	40 - 160	P	03/18/2016	12:03	LB80614
	Selenium	20.89	20.0	104.5	40 - 160	P	03/18/2016	12:03	LB80614
	Silver	9.53	10.0	95.3	40 - 160	P	03/18/2016	12:03	LB80614
	Sodium	2060.3	2000	103	40 - 160	P	03/18/2016	12:03	LB80614
	Thallium	39.53	40.0	98.8	40 - 160	P	03/18/2016	12:03	LB80614
	Vanadium	40.2	40.0	100.5	40 - 160	P	03/18/2016	12:03	LB80614
	Zinc	41.85	40.0	104.6	40 - 160	P	03/18/2016	12:03	LB80614

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB26	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	14:10	LB80559

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB39	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	14:15	LB80559
CCB40	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	14:47	LB80559
CCB41	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	15:13	LB80559
CCB42	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	15:41	LB80559
CCB43	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	16:08	LB80559
CCB44	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/16/2016	16:21	LB80559

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB28	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	11:56	LB80576

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	12:00	LB80576
CCB02	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	12:33	LB80576
CCB03	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	13:04	LB80576
CCB04	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	13:35	LB80576
CCB05	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	14:08	LB80576
CCB06	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	14:35	LB80576
CCB07	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	15:09	LB80576
CCB08	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	15:44	LB80576
CCB09	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	16:14	LB80576
CCB10	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	16:34	LB80576
CCB11	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	16:53	LB80576
CCB12	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	17:20	LB80576
CCB13	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	17:58	LB80576
CCB14	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/17/2016	18:11	LB80576

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	11:43	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	11:43	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	11:43	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	11:43	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	11:43	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	11:43	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	11:43	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	11:43	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	11:43	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	11:43	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	11:43	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	11:43	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	11:43	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	11:43	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	11:43	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	11:43	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	11:43	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	11:43	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	11:43	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	11:43	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	11:43	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	11:43	LB80581

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	12:08	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	12:08	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:08	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	12:08	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	12:08	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	12:08	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	12:08	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	12:08	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	12:08	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:08	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	12:08	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	12:08	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	12:08	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:08	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:08	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	12:08	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	12:08	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	12:08	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	12:08	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:08	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:08	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:08	LB80581
CCB02	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	12:55	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	12:55	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:55	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	12:55	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	12:55	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	12:55	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	12:55	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	12:55	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	12:55	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:55	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	12:55	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	12:55	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	12:55	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	12:55	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:55	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	12:55	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	12:55	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	12:55	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	12:55	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:55	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:55	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	12:55	LB80581
CCB03	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	13:53	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	13:53	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	13:53	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	13:53	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	13:53	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	13:53	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	13:53	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	13:53	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	13:53	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	13:53	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	13:53	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	13:53	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	13:53	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	13:53	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	13:53	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	13:53	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	13:53	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	13:53	LB80581
	Sodium	30.21	+/-2000	J	500	2000	P	03/17/2016	13:53	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	13:53	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	13:53	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	13:53	LB80581
CCB04	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	14:41	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	14:41	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	14:41	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	14:41	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	14:41	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	14:41	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	14:41	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	14:41	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	14:41	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	14:41	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	14:41	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	14:41	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	14:41	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	14:41	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	14:41	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	14:41	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	14:41	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	14:41	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	14:41	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	14:41	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	14:41	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	14:41	LB80581
CCB05	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	15:29	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	15:29	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	15:29	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	15:29	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	15:29	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	15:29	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	15:29	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	15:29	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	15:29	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	15:29	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	15:29	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	15:29	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	15:29	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	15:29	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	15:29	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	15:29	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	15:29	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	15:29	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	15:29	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	15:29	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	15:29	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	15:29	LB80581
CCB06	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	16:21	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	16:21	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	16:21	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	16:21	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	16:21	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	16:21	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	16:21	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	16:21	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	16:21	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	16:21	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Iron	100	+/-100	U	25.0	100	P	03/17/2016	16:21	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	16:21	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	16:21	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	16:21	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	16:21	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	16:21	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	16:21	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	16:21	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	16:21	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	16:21	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	16:21	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	16:21	LB80581
CCB07	Aluminum	15.39	+/-100	J	25.0	100	P	03/17/2016	17:09	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	17:09	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	17:09	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	17:09	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	17:09	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	17:09	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	17:09	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	17:09	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	17:09	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	17:09	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	17:09	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	17:09	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	17:09	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	17:09	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	17:09	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	17:09	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	17:09	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	17:09	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	17:09	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	17:09	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	17:09	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	17:09	LB80581
CCB08	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	18:27	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	18:27	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	18:27	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	18:27	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	18:27	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	18:27	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	18:27	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	18:27	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	18:27	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	18:27	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	18:27	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	18:27	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	18:27	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	18:27	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	18:27	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	18:27	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	18:27	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	18:27	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	18:27	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	18:27	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	18:27	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	18:27	LB80581
CCB09	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	19:16	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	19:16	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	19:16	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	19:16	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	19:16	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	19:16	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	19:16	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	19:16	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	19:16	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	19:16	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	19:16	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	19:16	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	19:16	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	19:16	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	19:16	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	19:16	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	19:16	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	19:16	LB80581
	Sodium	47.58	+/-2000	J	500	2000	P	03/17/2016	19:16	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	19:16	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	19:16	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	19:16	LB80581
CCB10	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	20:09	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	20:09	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB10	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:09	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	20:09	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	20:09	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	20:09	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	20:09	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	20:09	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	20:09	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:09	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	20:09	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	20:09	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	20:09	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:09	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:09	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	20:09	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	20:09	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	20:09	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	20:09	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:09	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:09	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:09	LB80581
CCB11	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	20:57	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	20:57	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:57	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	20:57	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	20:57	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	20:57	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	20:57	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	20:57	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	20:57	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:57	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	20:57	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	20:57	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	20:57	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	20:57	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:57	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	20:57	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	20:57	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	20:57	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	20:57	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:57	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB11	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:57	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	20:57	LB80581
CCB12	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	21:45	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	21:45	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	21:45	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	21:45	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	21:45	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	21:45	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	21:45	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	21:45	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	21:45	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	21:45	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	21:45	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	21:45	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	21:45	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	21:45	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	21:45	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	21:45	LB80581
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	21:45	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	21:45	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	21:45	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	21:45	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	21:45	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	21:45	LB80581
CCB13	Aluminum	100	+/-100	U	25.0	100	P	03/17/2016	22:13	LB80581
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/17/2016	22:13	LB80581
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	22:13	LB80581
	Barium	100	+/-100	U	25.0	100	P	03/17/2016	22:13	LB80581
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	22:13	LB80581
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/17/2016	22:13	LB80581
	Calcium	2000	+/-2000	U	500	2000	P	03/17/2016	22:13	LB80581
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	22:13	LB80581
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/17/2016	22:13	LB80581
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	22:13	LB80581
	Iron	100	+/-100	U	25.0	100	P	03/17/2016	22:13	LB80581
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/17/2016	22:13	LB80581
	Magnesium	2000	+/-2000	U	500	2000	P	03/17/2016	22:13	LB80581
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/17/2016	22:13	LB80581
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	22:13	LB80581
	Potassium	2000	+/-2000	U	500	2000	P	03/17/2016	22:13	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB13	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/17/2016	22:13	LB80581
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/17/2016	22:13	LB80581
	Sodium	2000	+/-2000	U	500	2000	P	03/17/2016	22:13	LB80581
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	22:13	LB80581
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	22:13	LB80581
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/17/2016	22:13	LB80581

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	11:59	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	11:59	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	11:59	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	11:59	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	11:59	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	11:59	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	11:59	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	11:59	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	11:59	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	11:59	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	11:59	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	11:59	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	11:59	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	11:59	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	11:59	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	11:59	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	11:59	LB80614
	Sodium	2000	+/-2000	U	500	2000	P	03/18/2016	11:59	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	12:38	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	12:38	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	12:38	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	12:38	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	12:38	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	12:38	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	12:38	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	12:38	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	12:38	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	12:38	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	12:38	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	12:38	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	12:38	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	12:38	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	12:38	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	12:38	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	12:38	LB80614
	Sodium	2000	+/-2000	U	500	2000	P	03/18/2016	12:38	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
CCB02	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	13:48	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	13:48	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	13:48	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	13:48	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	13:48	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	13:48	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	13:48	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	13:48	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	13:48	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	13:48	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	13:48	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	13:48	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	13:48	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	13:48	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	13:48	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	13:48	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	13:48	LB80614

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Sodium	2000	+/-2000	U	500	2000	P	03/18/2016	13:48	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
CCB03	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	14:56	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	14:56	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	14:56	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	14:56	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	14:56	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	14:56	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	14:56	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	14:56	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	14:56	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	14:56	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	14:56	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	14:56	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	14:56	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	14:56	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	14:56	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	14:56	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	14:56	LB80614
	Sodium	2000	+/-2000	U	500	2000	P	03/18/2016	14:56	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
CCB04	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	16:23	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	16:23	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	16:23	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	16:23	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	16:23	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	16:23	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	16:23	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	16:23	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	16:23	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	16:23	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	16:23	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	16:23	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	16:23	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	16:23	LB80614

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	16:23	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	16:23	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	16:23	LB80614
	Sodium	57.43	+/-2000	J	500	2000	P	03/18/2016	16:23	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
CCB05	Aluminum	100	+/-100	U	25.0	100	P	03/18/2016	17:16	LB80614
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	03/18/2016	17:16	LB80614
	Arsenic	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	17:16	LB80614
	Barium	100	+/-100	U	25.0	100	P	03/18/2016	17:16	LB80614
	Beryllium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	17:16	LB80614
	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	17:16	LB80614
	Calcium	2000	+/-2000	U	500	2000	P	03/18/2016	17:16	LB80614
	Chromium	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	17:16	LB80614
	Cobalt	30.0	+/-30.0	U	7.5	30.0	P	03/18/2016	17:16	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	17:16	LB80614
	Iron	100	+/-100	U	25.0	100	P	03/18/2016	17:16	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	17:16	LB80614
	Magnesium	2000	+/-2000	U	500	2000	P	03/18/2016	17:16	LB80614
	Manganese	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	17:16	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614
	Potassium	2000	+/-2000	U	500	2000	P	03/18/2016	17:16	LB80614
	Selenium	20.0	+/-20.0	U	10.0	20.0	P	03/18/2016	17:16	LB80614
	Silver	10.0	+/-10.0	U	2.5	10.0	P	03/18/2016	17:16	LB80614
	Sodium	57.07	+/-2000	J	500	2000	P	03/18/2016	17:16	LB80614
	Thallium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614
	Vanadium	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB88918BL		**WATER**		**Batch Number:**		**PB88918**		**Prep Date:**	**03/15/2016**	
	Mercury	0.2	<0.2	U	0.1	0.2	CV	03/16/2016	15:43	LB80559

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB88945BL		**SOLID**		**Batch Number:**		**PB88945**		**Prep Date:**	**03/16/2016**	
	Mercury	0.013	<0.013	U	0.007	0.013	CV	03/17/2016	15:34	LB80576

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Instrument: P4

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	LOD mg/Kg	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB88957BL		**SOLID**		**Batch Number:**		**PB88957**		**Prep Date:**	**03/17/2016**	
	Aluminum	4.93	<4.93	U	1.23	4.93	P	03/17/2016	16:25	LB80581
	Antimony	2.46	<2.46	U	0.616	2.46	P	03/17/2016	16:25	LB80581
	Arsenic	0.985	<0.985	U	0.246	0.985	P	03/17/2016	16:25	LB80581
	Barium	4.93	<4.93	U	1.23	4.93	P	03/17/2016	16:25	LB80581
	Beryllium	0.296	<0.296	U	0.074	0.296	P	03/17/2016	16:25	LB80581
	Cadmium	0.296	<0.296	U	0.074	0.296	P	03/17/2016	16:25	LB80581
	Calcium	1.64	<98.5	J	24.6	98.5	P	03/17/2016	16:25	LB80581
	Chromium	0.493	<0.493	U	0.123	0.493	P	03/17/2016	16:25	LB80581
	Cobalt	1.48	<1.48	U	0.369	1.48	P	03/17/2016	16:25	LB80581
	Copper	0.985	<0.985	U	0.246	0.985	P	03/17/2016	16:25	LB80581
	Iron	4.93	<4.93	U	1.23	4.93	P	03/17/2016	16:25	LB80581
	Lead	0.591	<0.591	U	0.246	0.591	P	03/17/2016	16:25	LB80581
	Magnesium	98.5	<98.5	U	24.6	98.5	P	03/17/2016	16:25	LB80581
	Manganese	0.985	<0.985	U	0.246	0.985	P	03/17/2016	16:25	LB80581
	Nickel	1.97	<1.97	U	0.493	1.97	P	03/17/2016	16:25	LB80581
	Potassium	98.5	<98.5	U	24.6	98.5	P	03/17/2016	16:25	LB80581
	Selenium	0.985	<0.985	U	0.246	0.985	P	03/17/2016	16:25	LB80581
	Silver	0.493	<0.493	U	0.123	0.493	P	03/17/2016	16:25	LB80581
	Sodium	98.5	<98.5	U	24.6	98.5	P	03/17/2016	16:25	LB80581
	Thallium	1.97	<1.97	U	0.493	1.97	P	03/17/2016	16:25	LB80581
	Vanadium	1.97	<1.97	U	0.493	1.97	P	03/17/2016	16:25	LB80581
	Zinc	1.97	<1.97	U	0.493	1.97	P	03/17/2016	16:25	LB80581

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB88983BL		**WATER**		**Batch Number:**		**PB88983**		**Prep Date:**	**03/18/2016**	
	Aluminum	50.0	<50.0	U	12.5	50.0	P	03/18/2016	13:36	LB80614
	Antimony	25.0	<25.0	U	6.25	25.0	P	03/18/2016	13:36	LB80614
	Arsenic	10.0	<10.0	U	2.5	10.0	P	03/18/2016	13:36	LB80614
	Barium	50.0	<50.0	U	12.5	50.0	P	03/18/2016	13:36	LB80614
	Beryllium	3.0	<3.0	U	0.75	3.0	P	03/18/2016	13:36	LB80614
	Cadmium	3.0	<3.0	U	0.75	3.0	P	03/18/2016	13:36	LB80614
	Calcium	1000	<1000	U	250	1000	P	03/18/2016	13:36	LB80614
	Chromium	5.0	<5.0	U	1.25	5.0	P	03/18/2016	13:36	LB80614
	Cobalt	15.0	<15.0	U	3.75	15.0	P	03/18/2016	13:36	LB80614
	Copper	10.0	<10.0	U	2.5	10.0	P	03/18/2016	13:36	LB80614
	Iron	50.0	<50.0	U	12.5	50.0	P	03/18/2016	13:36	LB80614
	Lead	6.0	<6.0	U	1.5	6.0	P	03/18/2016	13:36	LB80614
	Magnesium	1000	<1000	U	250	1000	P	03/18/2016	13:36	LB80614
	Manganese	10.0	<10.0	U	2.5	10.0	P	03/18/2016	13:36	LB80614
	Nickel	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614
	Potassium	1000	<1000	U	250	1000	P	03/18/2016	13:36	LB80614

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Instrument: P4

Selenium	10.0	<10.0	U	5.0	10.0	P	03/18/2016	13:36	LB80614
Silver	5.0	<5.0	U	1.25	5.0	P	03/18/2016	13:36	LB80614
Sodium	1000	<1000	U	250	1000	P	03/18/2016	13:36	LB80614
Thallium	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614
Vanadium	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614
Zinc	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614

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Metals
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INTERFERENCE CHECK SAMPLE

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	268000	254900	105.1	203920	305880	03/17/2016	11:51	LB80581
	Antimony	-11.2			-50	50	03/17/2016	11:51	LB80581
	Arsenic	8.75			-20	20	03/17/2016	11:51	LB80581
	Barium	5.28	6.0	88	-94	106	03/17/2016	11:51	LB80581
	Beryllium	0.85			-6	6	03/17/2016	11:51	LB80581
	Cadmium	-0.31	1.0	31	-5	7	03/17/2016	11:51	LB80581
	Calcium	248000	244500	101.4	195600	293400	03/17/2016	11:51	LB80581
	Chromium	59.2	52.0	113.8	42	62	03/17/2016	11:51	LB80581
	Cobalt	-0.33			-30	30	03/17/2016	11:51	LB80581
	Copper	-4.06	2.0	203	-18	22	03/17/2016	11:51	LB80581
	Iron	99600	100700	98.9	80560	120840	03/17/2016	11:51	LB80581
	Lead	-2.71			-12	12	03/17/2016	11:51	LB80581
	Magnesium	266000	2.5544e+006	10.4	204320	306480	03/17/2016	11:51	LB80581
	Manganese	19	7.0	271.4	-13	27	03/17/2016	11:51	LB80581
	Nickel	0.51	2.0	25.5	-38	42	03/17/2016	11:51	LB80581
	Potassium	11.4			0	0	03/17/2016	11:51	LB80581
	Selenium	-4.23			-20	20	03/17/2016	11:51	LB80581
	Silver	-4.6			-10	10	03/17/2016	11:51	LB80581
	Sodium	33.2			0	0	03/17/2016	11:51	LB80581
	Thallium	-6.05			-40	40	03/17/2016	11:51	LB80581
	Vanadium	0.86			-40	40	03/17/2016	11:51	LB80581
	Zinc	-2.11			-40	40	03/17/2016	11:51	LB80581
ICSAB01	Aluminum	268000	246800	108.6	197440	296160	03/17/2016	11:55	LB80581
	Antimony	628	618	101.6	494	742	03/17/2016	11:55	LB80581
	Arsenic	108	104	103.8	83	125	03/17/2016	11:55	LB80581
	Barium	534	537	99.4	337	737	03/17/2016	11:55	LB80581
	Beryllium	555	495	112.1	396	594	03/17/2016	11:55	LB80581
	Cadmium	1040	972	107	778	1166	03/17/2016	11:55	LB80581
	Calcium	248000	234900	105.6	187920	281880	03/17/2016	11:55	LB80581
	Chromium	555	542	102.4	434	650	03/17/2016	11:55	LB80581
	Cobalt	513	476	107.8	381	571	03/17/2016	11:55	LB80581
	Copper	494	511	96.7	409	613	03/17/2016	11:55	LB80581
	Iron	99600	99320	100.3	79456	119184	03/17/2016	11:55	LB80581
	Lead	50.1	49.0	102.2	39	59	03/17/2016	11:55	LB80581
	Magnesium	266000	248000	107.3	198400	297600	03/17/2016	11:55	LB80581
	Manganese	550	507	108.5	406	608	03/17/2016	11:55	LB80581
	Nickel	1020	954	106.9	763	1145	03/17/2016	11:55	LB80581
	Potassium	-7.73			0	0	03/17/2016	11:55	LB80581
	Selenium	51.8	46.0	112.6	11	81	03/17/2016	11:55	LB80581
	Silver	216	201	107.5	161	241	03/17/2016	11:55	LB80581
	Sodium	39.8			0	0	03/17/2016	11:55	LB80581
	Thallium	101	108	93.5	83	133	03/17/2016	11:55	LB80581
	Vanadium	514	491	104.7	393	589	03/17/2016	11:55	LB80581
	Zinc	1040	952	109.2	762	1142	03/17/2016	11:55	LB80581
ICSA01	Aluminum	271000	254900	106.3	203920	305880	03/18/2016	12:15	LB80614

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Metals
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INTERFERENCE CHECK SAMPLE

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Antimony	-4.24			-50	50	03/18/2016	12:15	LB80614
	Arsenic	1.09			-20	20	03/18/2016	12:15	LB80614
	Barium	-4.03	6.0	67.2	-94	106	03/18/2016	12:15	LB80614
	Beryllium	1.12			-6	6	03/18/2016	12:15	LB80614
	Cadmium	-1.55	1.0	155	-5	7	03/18/2016	12:15	LB80614
	Calcium	247000	244500	101	195600	293400	03/18/2016	12:15	LB80614
	Chromium	61.7	52.0	118.7	42	62	03/18/2016	12:15	LB80614
	Cobalt	-0.41			-30	30	03/18/2016	12:15	LB80614
	Copper	-1.89	2.0	94.5	-18	22	03/18/2016	12:15	LB80614
	Iron	103000	100700	102.3	80560	120840	03/18/2016	12:15	LB80614
	Lead	-6.03			-12	12	03/18/2016	12:15	LB80614
	Magnesium	264000	2.5544e+006	10.3	204320	306480	03/18/2016	12:15	LB80614
	Manganese	17.7	7.0	252.9	-13	27	03/18/2016	12:15	LB80614
	Nickel	4.92	2.0	246	-38	42	03/18/2016	12:15	LB80614
	Potassium	21.8			0	0	03/18/2016	12:15	LB80614
	Selenium	-8.85			-20	20	03/18/2016	12:15	LB80614
	Silver	9.32			-10	10	03/18/2016	12:15	LB80614
	Sodium	56.8			0	0	03/18/2016	12:15	LB80614
	Thallium	-4.95			-40	40	03/18/2016	12:15	LB80614
	Vanadium	0.58			-40	40	03/18/2016	12:15	LB80614
	Zinc	-0.29			-40	40	03/18/2016	12:15	LB80614
ICSAB01	Aluminum	275000	246800	111.4	197440	296160	03/18/2016	12:19	LB80614
	Antimony	638	618	103.2	494	742	03/18/2016	12:19	LB80614
	Arsenic	106	104	101.9	83	125	03/18/2016	12:19	LB80614
	Barium	498	537	92.7	337	737	03/18/2016	12:19	LB80614
	Beryllium	564	495	113.9	396	594	03/18/2016	12:19	LB80614
	Cadmium	1040	972	107	778	1166	03/18/2016	12:19	LB80614
	Calcium	251000	234900	106.9	187920	281880	03/18/2016	12:19	LB80614
	Chromium	608	542	112.2	434	650	03/18/2016	12:19	LB80614
	Cobalt	516	476	108.4	381	571	03/18/2016	12:19	LB80614
	Copper	497	511	97.3	409	613	03/18/2016	12:19	LB80614
	Iron	105000	99320	105.7	79456	119184	03/18/2016	12:19	LB80614
	Lead	45.9	49.0	93.7	39	59	03/18/2016	12:19	LB80614
	Magnesium	269000	248000	108.5	198400	297600	03/18/2016	12:19	LB80614
	Manganese	535	507	105.5	406	608	03/18/2016	12:19	LB80614
	Nickel	1060	954	111.1	763	1145	03/18/2016	12:19	LB80614
	Potassium	-1.96			0	0	03/18/2016	12:19	LB80614
	Selenium	44.1	46.0	95.9	11	81	03/18/2016	12:19	LB80614
	Silver	231	201	114.9	161	241	03/18/2016	12:19	LB80614
	Sodium	51.8			0	0	03/18/2016	12:19	LB80614
	Thallium	104	108	96.3	83	133	03/18/2016	12:19	LB80614
	Vanadium	524	491	106.7	393	589	03/18/2016	12:19	LB80614
	Zinc	1080	952	113.4	762	1142	03/18/2016	12:19	LB80614

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: WATER **sample id:** H1788-07 **client id:** TW-2MS

Percent Solids for Sample: NA **Spiked ID:** H1788-07MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	4660		3090		1000	157	N	P
Antimony	ug/L	75 - 125	462		25.0	U	400	115.5		P
Arsenic	ug/L	75 - 125	432		10.0	U	400	108		P
Barium	ug/L	75 - 125	227		110		100	117		P
Beryllium	ug/L	75 - 125	114		3.0	U	100	114		P
Cadmium	ug/L	75 - 125	111		3.0	U	100	111		P
Calcium	ug/L	75 - 125	57200		52300		500	980		P
Chromium	ug/L	75 - 125	240		16.2		200	112		P
Cobalt	ug/L	75 - 125	122		10.23	J	100	112		P
Copper	ug/L	75 - 125	170		6.7	J	150	109		P
Iron	ug/L	75 - 125	15200		12200		1500	200		P
Lead	ug/L	75 - 125	545		2.3	J	500	109		P
Magnesium	ug/L	75 - 125	32600		29000		1000	360		P
Manganese	ug/L	75 - 125	820		656		100	164		P
Mercury	ug/L	75 - 125	4.34		0.2	U	4.0	108.5		CV
Nickel	ug/L	75 - 125	291		13.8	J	250	111		P
Potassium	ug/L	75 - 125	12900		7100		5000	116		P
Selenium	ug/L	75 - 125	1090		10.0	U	1000	109		P
Silver	ug/L	75 - 125	39.6		5.0	U	37.5	105.6		P
Sodium	ug/L	75 - 125	35700		31300		1500	293		P
Thallium	ug/L	75 - 125	1070		20.0	U	1000	107		P
Vanadium	ug/L	75 - 125	183		12.5	J	150	114		P
Zinc	ug/L	75 - 125	130		15.5	J	100	115		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: WATER **sample id:** H1788-07 **client id:** TW-2MSD

Percent Solids for Sample: NA **Spiked ID:** H1788-07MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	4650		3090		1000	156	N	P
Antimony	ug/L	75 - 125	462		25.0	U	400	115.5		P
Arsenic	ug/L	75 - 125	432		10.0	U	400	108		P
Barium	ug/L	75 - 125	227		110		100	117		P
Beryllium	ug/L	75 - 125	115		3.0	U	100	115		P
Cadmium	ug/L	75 - 125	111		3.0	U	100	111		P
Calcium	ug/L	75 - 125	57100		52300		500	960		P
Chromium	ug/L	75 - 125	240		16.2		200	112		P
Cobalt	ug/L	75 - 125	122		10.23	J	100	112		P
Copper	ug/L	75 - 125	171		6.7	J	150	110		P
Iron	ug/L	75 - 125	15000		12200		1500	187		P
Lead	ug/L	75 - 125	544		2.3	J	500	108		P
Magnesium	ug/L	75 - 125	32400		29000		1000	340		P
Manganese	ug/L	75 - 125	825		656		100	169		P
Mercury	ug/L	75 - 125	4.2		0.2	U	4.0	105		CV
Nickel	ug/L	75 - 125	291		13.8	J	250	111		P
Potassium	ug/L	75 - 125	12900		7100		5000	116		P
Selenium	ug/L	75 - 125	1080		10.0	U	1000	108		P
Silver	ug/L	75 - 125	39.7		5.0	U	37.5	105.9		P
Sodium	ug/L	75 - 125	35700		31300		1500	293		P
Thallium	ug/L	75 - 125	1070		20.0	U	1000	107		P
Vanadium	ug/L	75 - 125	183		12.5	J	150	114		P
Zinc	ug/L	75 - 125	128		15.5	J	100	113		P

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: Solid **sample id:** H1790-02 **client id:** GRID-8A-(0-10)MS

Percent Solids for Sample: 95.9 **Spiked ID:** H1790-02MS **Percent Solids for Spike Sample:** 95.9

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	3440		3230		88.0	239		P
Antimony	mg/Kg	75 - 125	13.1		2.21	U	35.2	37.2	N	P
Arsenic	mg/Kg	75 - 125	35.6		2.59		35.2	94		P
Barium	mg/Kg	75 - 125	48.7		37.1		8.8	132		P
Beryllium	mg/Kg	75 - 125	9.01		0.275		8.8	99		P
Cadmium	mg/Kg	75 - 125	9.3		0.265	U	8.8	105.7		P
Calcium	mg/Kg	75 - 125	5460		4780		44.0	1545		P
Chromium	mg/Kg	75 - 125	23.1		6.72		17.6	93		P
Cobalt	mg/Kg	75 - 125	13		3.98		8.8	103		P
Copper	mg/Kg	75 - 125	31.9		19.9		13.2	91		P
Iron	mg/Kg	75 - 125	9270		9360		130	-69		P
Lead	mg/Kg	75 - 125	63.4		16.9		44.0	106		P
Magnesium	mg/Kg	75 - 125	2860		2520		88.0	386		P
Manganese	mg/Kg	75 - 125	213		196		8.8	193		P
Nickel	mg/Kg	75 - 125	32.3		9.58		22.0	103		P
Potassium	mg/Kg	75 - 125	1050		570		440	109		P
Selenium	mg/Kg	75 - 125	79.6		0.884	U	88.0	90.5		P
Silver	mg/Kg	75 - 125	2.8		0.442	U	3.3	84.8		P
Sodium	mg/Kg	75 - 125	242		110		130	102		P
Thallium	mg/Kg	75 - 125	87.5		1.77	U	88.0	99.4		P
Vanadium	mg/Kg	75 - 125	26.4		13.1		13.2	101		P
Zinc	mg/Kg	75 - 125	45.5		38		8.8	85		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: Solid **sample id:** H1790-02 **client id:** GRID-8A-(0-10)MSD

Percent Solids for Sample: 95.9 **Spiked ID:** H1790-02MSD **Percent Solids for Spike Sample:** 95.9

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	mg/Kg	75 - 125	3470		3230		88.4	271		P
Antimony	mg/Kg	75 - 125	13.1		2.21	U	35.3	37.1	N	P
Arsenic	mg/Kg	75 - 125	35.8		2.59		35.3	94		P
Barium	mg/Kg	75 - 125	48.9		37.1		8.8	134		P
Beryllium	mg/Kg	75 - 125	9.04		0.275		8.8	100		P
Cadmium	mg/Kg	75 - 125	9.35		0.265	U	8.8	106.3		P
Calcium	mg/Kg	75 - 125	5470		4780		44.2	1561		P
Chromium	mg/Kg	75 - 125	23.2		6.72		17.7	93		P
Cobalt	mg/Kg	75 - 125	13.1		3.98		8.8	104		P
Copper	mg/Kg	75 - 125	32.1		19.9		13.3	92		P
Iron	mg/Kg	75 - 125	9280		9360		130	-62		P
Lead	mg/Kg	75 - 125	63.8		16.9		44.2	106		P
Magnesium	mg/Kg	75 - 125	2860		2520		88.4	385		P
Manganese	mg/Kg	75 - 125	215		196		8.8	216		P
Nickel	mg/Kg	75 - 125	32.4		9.58		22.1	103		P
Potassium	mg/Kg	75 - 125	1050		570		440	109		P
Selenium	mg/Kg	75 - 125	80.4		0.884	U	88.4	91		P
Silver	mg/Kg	75 - 125	2.8		0.442	U	3.3	84.8		P
Sodium	mg/Kg	75 - 125	242		110		130	102		P
Thallium	mg/Kg	75 - 125	88.2		1.77	U	88.4	99.8		P
Vanadium	mg/Kg	75 - 125	26.7		13.1		13.3	102		P
Zinc	mg/Kg	75 - 125	45.5		38		8.8	85		P

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: Solid **sample id:** H1790-04 **client id:** GRID-8B-(10-20)MS

Percent Solids for Sample: 98.2 **Spiked ID:** H1790-04MS **Percent Solids for Spike Sample:** 98.2

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	75 - 125	0.265		0.013	U	0.25	106		CV

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1788

contract: AKRF02 **lab code:** CHEM **case no.:** H1788 **sas no.:** H1788

matrix: Solid **sample id:** H1790-04 **client id:** GRID-8B-(10-20)MSD

Percent Solids for Sample: 98.2 **Spiked ID:** H1790-04MSD **Percent Solids for Spike Sample:** 98.2

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	mg/Kg	75 - 125	0.262		0.013	U	0.25	104.8		CV

CHEMTECH

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A B C D E F G H

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: WATER **Level:** LOW **Client ID:** TW-2A

Sample ID: H1788-07 **Spiked ID:** H1788-07A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	75 - 125	3970		3090		1000	88		P

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A B C D E F G H

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: Solid **Level:** LOW **Client ID:** GRID-8A-(0-10)A

Sample ID: H1790-02 **Spiked ID:** H1790-02A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Antimony	mg/Kg	75 - 125	32.5		2.21	U	35.3	92.1		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: WATER **Sample ID:** H1788-07 **Client ID:** TW-2DUP

Percent Solids for Sample: NA **Duplicate ID** H1788-07DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	3090		3140		2		P
Antimony	ug/L	20	25.0	U	25.0	U			P
Arsenic	ug/L	20	10.0	U	10.0	U			P
Barium	ug/L	20	110		112		2		P
Beryllium	ug/L	20	3.0	U	3.0	U			P
Cadmium	ug/L	20	3.0	U	3.0	U			P
Calcium	ug/L	20	52300		52400		0		P
Chromium	ug/L	20	16.2		16.1		1		P
Cobalt	ug/L	20	10.23	J	10.06	J	2		P
Copper	ug/L	20	6.7	J	6.65	J	1		P
Iron	ug/L	20	12200		12400		2		P
Lead	ug/L	20	2.3	J	2.07	J	11		P
Magnesium	ug/L	20	29000		29000		0		P
Manganese	ug/L	20	656		660		1		P
Mercury	ug/L	20	0.2	U	0.2	U			CV
Nickel	ug/L	20	13.8	J	13.4	J	3		P
Potassium	ug/L	20	7100		7210		2		P
Selenium	ug/L	20	10.0	U	10.0	U			P
Silver	ug/L	20	5.0	U	5.0	U			P
Sodium	ug/L	20	31300		31500		1		P
Thallium	ug/L	20	20.0	U	20.0	U			P
Vanadium	ug/L	20	12.5	J	12.4	J	1		P
Zinc	ug/L	20	15.5	J	14.5	J	7		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: WATER **Sample ID:** H1788-07MS **Client ID:** TW-2MSD

Percent Solids for Sample: NA **Duplicate ID** H1788-07MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	4660		4650		0		P
Antimony	ug/L	20	462		462		0		P
Arsenic	ug/L	20	432		432		0		P
Barium	ug/L	20	227		227		0		P
Beryllium	ug/L	20	114		115		1		P
Cadmium	ug/L	20	111		111		0		P
Calcium	ug/L	20	57200		57100		0		P
Chromium	ug/L	20	240		240		0		P
Cobalt	ug/L	20	122		122		0		P
Copper	ug/L	20	170		171		1		P
Iron	ug/L	20	15200		15000		1		P
Lead	ug/L	20	545		544		0		P
Magnesium	ug/L	20	32600		32400		1		P
Manganese	ug/L	20	820		825		1		P
Mercury	ug/L	20	4.34		4.2		3		CV
Nickel	ug/L	20	291		291		0		P
Potassium	ug/L	20	12900		12900		0		P
Selenium	ug/L	20	1090		1080		1		P
Silver	ug/L	20	39.6		39.7		0		P
Sodium	ug/L	20	35700		35700		0		P
Thallium	ug/L	20	1070		1070		0		P
Vanadium	ug/L	20	183		183		0		P
Zinc	ug/L	20	130		128		2		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: Solid **Sample ID:** H1790-02 **Client ID:** GRID-8A-(0-10)DUP

Percent Solids for Sample: 95.9 **Duplicate ID** H1790-02DUP **Percent Solids for Spike Sample:** 95.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	3230		3220		0		P
Antimony	mg/Kg	20	2.21	U	2.22	U			P
Arsenic	mg/Kg	20	2.59		2.56		1		P
Barium	mg/Kg	20	37.1		37.2		0		P
Beryllium	mg/Kg	20	0.275		0.276		0		P
Cadmium	mg/Kg	20	0.265	U	0.266	U			P
Calcium	mg/Kg	20	4780		4800		0		P
Chromium	mg/Kg	20	6.72		6.75		0		P
Cobalt	mg/Kg	20	3.98		4		1		P
Copper	mg/Kg	20	19.9		20		1		P
Iron	mg/Kg	20	9360		9260		1		P
Lead	mg/Kg	20	16.9		17.1		1		P
Magnesium	mg/Kg	20	2520		2530		0		P
Manganese	mg/Kg	20	196		196		0		P
Nickel	mg/Kg	20	9.58		9.57		0		P
Potassium	mg/Kg	20	570		572		0		P
Selenium	mg/Kg	20	0.884	U	0.887	U			P
Silver	mg/Kg	20	0.442	U	0.444	U			P
Sodium	mg/Kg	20	110		111		1		P
Thallium	mg/Kg	20	1.77	U	1.77	U			P
Vanadium	mg/Kg	20	13.1		13.1		0		P
Zinc	mg/Kg	20	38		37.4		2		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: Solid **Sample ID:** H1790-02MS **Client ID:** GRID-8A-(0-10)MSD

Percent Solids for Sample: 95.9 **Duplicate ID** H1790-02MSD **Percent Solids for Spike Sample:** 95.9

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	mg/Kg	20	3440		3470		1		P
Antimony	mg/Kg	20	13.1		13.1		0		P
Arsenic	mg/Kg	20	35.6		35.8		1		P
Barium	mg/Kg	20	48.7		48.9		0		P
Beryllium	mg/Kg	20	9.01		9.04		0		P
Cadmium	mg/Kg	20	9.3		9.35		1		P
Calcium	mg/Kg	20	5460		5470		0		P
Chromium	mg/Kg	20	23.1		23.2		0		P
Cobalt	mg/Kg	20	13		13.1		1		P
Copper	mg/Kg	20	31.9		32.1		1		P
Iron	mg/Kg	20	9270		9280		0		P
Lead	mg/Kg	20	63.4		63.8		1		P
Magnesium	mg/Kg	20	2860		2860		0		P
Manganese	mg/Kg	20	213		215		1		P
Nickel	mg/Kg	20	32.3		32.4		0		P
Potassium	mg/Kg	20	1050		1050		0		P
Selenium	mg/Kg	20	79.6		80.4		1		P
Silver	mg/Kg	20	2.8		2.8		0		P
Sodium	mg/Kg	20	242		242		0		P
Thallium	mg/Kg	20	87.5		88.2		1		P
Vanadium	mg/Kg	20	26.4		26.7		1		P
Zinc	mg/Kg	20	45.5		45.5		0		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: Solid **Sample ID:** H1790-04 **Client ID:** GRID-8B-(10-20)DUP

Percent Solids for Sample: 98.2 **Duplicate ID** H1790-04DUP **Percent Solids for Spike Sample:** 98.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.013	U	0.013	U			CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Matrix: Solid **Sample ID:** H1790-04MS **Client ID:** GRID-8B-(10-20)MSD

Percent Solids for Sample: 98.2 **Duplicate ID** H1790-04MSD **Percent Solids for Spike Sample:** 98.2

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	mg/Kg	20	0.265		0.262		1		CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88918BS							
Mercury	ug/L	4.0	4.09		102.3	80 - 120	CV

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Metals

LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88945BS							
Mercury	mg/Kg	0.27	0.263		97.4	70 - 130	CV

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Metals

LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88957BS							
Aluminum	mg/Kg	98.0	99.7		101.7	70 - 130	P
Antimony	mg/Kg	39.2	41.2		105.1	70 - 130	P
Arsenic	mg/Kg	39.2	40.1		102.3	70 - 130	P
Barium	mg/Kg	9.8	10.7		109.2	70 - 130	P
Beryllium	mg/Kg	9.8	10.13		103.4	70 - 130	P
Cadmium	mg/Kg	9.8	9.93		101.3	70 - 130	P
Calcium	mg/Kg	49.0	61.5	J	125.5	70 - 130	P
Chromium	mg/Kg	19.6	20.8		106.1	70 - 130	P
Cobalt	mg/Kg	9.8	10.13		103.4	70 - 130	P
Copper	mg/Kg	14.7	16.2		110.2	70 - 130	P
Iron	mg/Kg	150	158		105.3	70 - 130	P
Lead	mg/Kg	49.0	49.8		101.6	70 - 130	P
Magnesium	mg/Kg	98.0	103		105.1	70 - 130	P
Manganese	mg/Kg	9.8	11.1		113.3	70 - 130	P
Nickel	mg/Kg	24.5	25.3		103.3	70 - 130	P
Potassium	mg/Kg	490	514		104.9	70 - 130	P
Selenium	mg/Kg	98.0	97.8		99.8	70 - 130	P
Silver	mg/Kg	3.7	3.68		99.5	70 - 130	P
Sodium	mg/Kg	150	158		105.3	70 - 130	P
Thallium	mg/Kg	98.0	100		102	70 - 130	P
Vanadium	mg/Kg	14.7	15.7		106.8	70 - 130	P
Zinc	mg/Kg	9.8	10.86		110.8	70 - 130	P

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Metals

LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88983BS							
Aluminum	ug/L	1000	1020		102	80 - 120	P
Antimony	ug/L	400	428		107	80 - 120	P
Arsenic	ug/L	400	393		98.3	80 - 120	P
Barium	ug/L	100	97.2		97.2	80 - 120	P
Beryllium	ug/L	100	103		103	80 - 120	P
Cadmium	ug/L	100	101		101	80 - 120	P
Calcium	ug/L	500	549	J	109.8	80 - 120	P
Chromium	ug/L	200	215		107.5	80 - 120	P
Cobalt	ug/L	100	103		103	80 - 120	P
Copper	ug/L	150	161		107.3	80 - 120	P
Iron	ug/L	1500	1660		110.7	80 - 120	P
Lead	ug/L	500	498		99.6	80 - 120	P
Magnesium	ug/L	1000	1030		103	80 - 120	P
Manganese	ug/L	100	109		109	80 - 120	P
Nickel	ug/L	250	257		102.8	80 - 120	P
Potassium	ug/L	5000	4880		97.6	80 - 120	P
Selenium	ug/L	1000	993		99.3	80 - 120	P
Silver	ug/L	37.5	35.3		94.1	80 - 120	P
Sodium	ug/L	1500	1590		106	80 - 120	P
Thallium	ug/L	1000	999		99.9	80 - 120	P
Vanadium	ug/L	150	160		106.7	80 - 120	P
Zinc	ug/L	100	104		104	80 - 120	P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

TW-2L

Lab Name: Chemtech Consulting Group **Contract:** AKRF02

Lab Code: CHEM **Lb No.:** lb80614 **Lab Sample ID :** H1788-07L **SDG No.:** H1788

Matrix (soil/water): WATER **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	3090		3060		1		P
Antimony	25.0	U	125	U			P
Arsenic	10.0	U	50.0	U			P
Barium	110		95.2	J	13		P
Beryllium	3.0	U	15.0	U			P
Cadmium	3.0	U	15.0	U			P
Calcium	52300		53500		2		P
Chromium	16.2		16.2	J	0		P
Cobalt	10.23	J	75.0	U	100.0		P
Copper	6.7	J	50.0	U	100.0		P
Iron	12200		12100		1		P
Lead	2.3	J	30.0	U	100.0		P
Magnesium	29000		29700		2		P
Manganese	656		680		4		P
Mercury	0.2	U	1.0	U			CV
Nickel	13.8	J	100	U	100.0		P
Potassium	7100		7240		2		P
Selenium	10.0	U	50.0	U			P
Silver	5.0	U	25.0	U			P
Sodium	31300		31500		1		P
Thallium	20.0	U	100	U			P
Vanadium	12.5	J	100	U	100.0		P
Zinc	15.5	J	100	U	100.0		P

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ICP SERIAL DILUTIONS

SAMPLE NO.

GRID-8A-(0-10)L

Lab Name: Chemtech Consulting Group **Contract:** AKRF02

Lab Code: CHEM **Lb No.:** lb80581 **Lab Sample ID :** H1790-02L **SDG No.:** H1788

Matrix (soil/water): Solid **Level (low/med):** LOW

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	3230		3370		4		P
Antimony	2.21	U	11.0	U			P
Arsenic	2.59		2.82	J	9		P
Barium	37.1		40.4		9		P
Beryllium	0.275		0.294	J	7		P
Cadmium	0.265	U	1.33	U			P
Calcium	4780		5350		12		P
Chromium	6.72		7.67		14		P
Cobalt	3.98		3.95	J	1		P
Copper	19.9		22.7		14		P
Iron	9360		9430		1		P
Lead	16.9		17.6		4		P
Magnesium	2520		2820		12		P
Manganese	196		225		15		P
Nickel	9.58		9.55		0		P
Potassium	570		613		8		P
Selenium	0.884	U	4.42	U			P
Silver	0.442	U	2.21	U			P
Sodium	110		117	J	6		P
Thallium	1.77	U	8.84	U			P
Vanadium	13.1		14.4		10		P
Zinc	38		39.1		3		P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

GRID-8B-(10-20)L

Lab Name: Chemtech Consulting Group **Contract:** AKRF02

Lab Code: CHEM **Lb No.:** lb80576 **Lab Sample ID :** H1790-04L **SDG No.:** H1788

Matrix (soil/water): Solid **Level (low/med):** LOW

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Mercury	0.013	U	0.066	U			CV

METAL PREPARATION & INSTRUMENT DATA

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Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: P4 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
SOLIDS					
Method:	**6010B**				
Aluminum	396.10	0.84	1.25	5	
Antimony	206.83	0.56	0.625	2.5	
Arsenic	189.04	0.25	0.25	1	
Barium	493.41	0.40	1.25	5	
Beryllium	234.86	0.060	0.075	0.3	
Cadmium	226.50	0.060	0.075	0.3	
Calcium	373.69	1.07	25.0	100	
Chromium	267.72	0.125	0.125	0.5	
Cobalt	228.62	0.375	0.375	1.5	
Copper	224.70	0.25	0.25	1	
Iron	240.48	1.25	1.25	5	
Lead	220.35	0.12	0.25	0.6	
Magnesium	279.08	4.58	25.0	100	
Manganese	257.61	0.19	0.25	1	
Nickel	231.60	0.46	0.5	2	
Potassium	766.49	3.5	25.0	100	
Selenium	196.02	0.25	0.25	1	
Silver	328.07	0.125	0.125	0.5	
Sodium	589.59	2.52	25.0	100	
Thallium	190.86	0.27	0.5	2	
Vanadium	292.40	0.50	0.5	2	
Zinc	213.8	0.50	0.5	2	
LIQUID					
Method:	**6010C**				
Aluminum	396.10	6.5	12.5	50	
Antimony	206.83	6.25	6.25	25	
Arsenic	189.04	2.5	2.5	10	
Barium	493.41	4	12.5	50	
Beryllium	234.86	0.70	0.75	3	
Cadmium	226.50	0.50	0.75	3	
Calcium	373.69	31.8	250	1000	
Chromium	267.72	1.1	1.25	5	
Cobalt	228.62	3.75	3.75	15	
Copper	224.70	2	2.5	10	
Iron	240.48	12.5	12.5	50	
Lead	220.35	1.5	1.5	6	
Magnesium	279.08	32.5	250	1000	
Manganese	257.61	1.7	2.5	10	
Nickel	231.60	4.2	5.0	20	
Potassium	766.49	38.8	250	1000	
Selenium	196.02	4.8	5.0	10	
Silver	328.07	1.25	1.25	5	

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Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: P4 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
Sodium	589.59	13.9	250	1000	
Thallium	190.86	2.4	5.0	20	
Vanadium	292.40	5	5.0	20	
Zinc	213.8	5	5.0	20	

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Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: CV1 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
LIQUID					
Method: **7470A**					
Mercury	253.70	0.10	0.1	0.2	
SOLIDS					
Method: **7471A**					
Mercury	253.70	0.0050	0.005	0.01	

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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	-0.0001030	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000090	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000840	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0001620	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0001070	0.0000000	0.0000280	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001280	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001170	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001900	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0001570
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0004170
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0002660
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0018500
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0308240
Antimony	206.833	0.0013816	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0011220	0.0000000	0.0000000	0.0000000	0.0015300
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000740	-0.0003180
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000600
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0002280	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0011900
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0014660
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0003060	0.0000000	0.0000000	0.0001250	-0.0013650
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	-0.0137700
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0020550
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0006680	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0002250	0.0000000	0.0000000	0.0011640	0.0000000
Vanadium	292.402	-0.0032600	0.0000000	0.0000000	-0.0220050	-0.0003720
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	-0.0004160	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000930	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0001600	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0049290	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0002444	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0057000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	-0.0018200	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	-0.0040370	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	-0.0346560	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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LINEAR RANGES

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1788 **SAS No.:** H1788

Instrument ID: P4 **Date:** 02/20/2015

Analyte	Integration Time (sec)	LDR ug/L
Aluminum	10	1700000
Antimony	10	100000
Arsenic	10	90000
Barium	10	100000
Beryllium	10	9000
Cadmium	10	10000
Calcium	10	2750000
Chromium	10	85000
Cobalt	10	50000
Copper	10	300000
Iron	10	900000
Lead	10	280000
Magnesium	10	3750000
Manganese	10	65000
Nickel	10	70000
Potassium	10	2000000
Selenium	10	45000
Silver	10	8500
Sodium	10	2700000
Thallium	10	90000
Vanadium	10	90000
Zinc	10	40000

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1788 **SAS No.:** H1788

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88918**						
H1788-06	TW-1	SAM	WATER	03/15/2016	30.0	30.0	
H1788-07	TW-2	SAM	WATER	03/15/2016	30.0	30.0	
H1788-07DUP	TW-2DUP	DUP	WATER	03/15/2016	30.0	30.0	
H1788-07MS	TW-2MS	MS	WATER	03/15/2016	30.0	30.0	
H1788-07MSD	TW-2MSD	MSD	WATER	03/15/2016	30.0	30.0	
H1788-08	TW-4	SAM	WATER	03/15/2016	30.0	30.0	
H1788-09	TW-5	SAM	WATER	03/15/2016	30.0	30.0	
PB88918BL	PB88918BL	MB	WATER	03/15/2016	30.0	30.0	
PB88918BS	PB88918BS	LCS	WATER	03/15/2016	30.0	30.0	

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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1788 **SAS No.:** H1788

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88945**						
H1788-01	SB-1(8-9)	SAM	SOLID	03/16/2016	0.56	35.0	86.50
H1788-02	SB-2(8-9)	SAM	SOLID	03/16/2016	0.55	35.0	83.30
H1788-03	SB-3(7-8)	SAM	SOLID	03/16/2016	0.58	35.0	90.80
H1788-04	SB-4(7-8)	SAM	SOLID	03/16/2016	0.55	35.0	88.50
H1788-05	SB-5(9-10)	SAM	SOLID	03/16/2016	0.53	35.0	82.70
H1790-04DUP	GRID-8B-(10-20)DUP	DUP	SOLID	03/16/2016	0.55	35.0	98.20
H1790-04MS	GRID-8B-(10-20)MS	MS	SOLID	03/16/2016	0.57	35.0	98.20
H1790-04MSD	GRID-8B-(10-20)MSD	MSD	SOLID	03/16/2016	0.57	35.0	98.20
PB88945BL	PB88945BL	MB	SOLID	03/16/2016	0.53	35.0	100.00
PB88945BS	PB88945BS	LCS	SOLID	03/16/2016	0.51	35.0	100.00

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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1788 **SAS No.:** H1788

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88957**						
H1788-01	SB-1(8-9)	SAM	SOLID	03/17/2016	2.41	100.0	86.50
H1788-02	SB-2(8-9)	SAM	SOLID	03/17/2016	2.39	100.0	83.30
H1788-03	SB-3(7-8)	SAM	SOLID	03/17/2016	2.42	100.0	90.80
H1788-04	SB-4(7-8)	SAM	SOLID	03/17/2016	2.30	100.0	88.50
H1788-05	SB-5(9-10)	SAM	SOLID	03/17/2016	2.41	100.0	82.70
H1790-02DUP	GRID-8A-(0-10)DUP	DUP	SOLID	03/17/2016	2.35	100.0	95.90
H1790-02MS	GRID-8A-(0-10)MS	MS	SOLID	03/17/2016	2.37	100.0	95.90
H1790-02MSD	GRID-8A-(0-10)MSD	MSD	SOLID	03/17/2016	2.36	100.0	95.90
PB88957BL	PB88957BL	MB	SOLID	03/17/2016	2.03	100.0	100.00
PB88957BS	PB88957BS	LCS	SOLID	03/17/2016	2.04	100.0	100.00

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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1788 **SAS No.:** H1788

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88983**						
H1788-06	TW-1	SAM	WATER	03/18/2016	50.0	25.0	
H1788-07	TW-2	SAM	WATER	03/18/2016	50.0	25.0	
H1788-07DUP	TW-2DUP	DUP	WATER	03/18/2016	50.0	25.0	
H1788-07MS	TW-2MS	MS	WATER	03/18/2016	50.0	25.0	
H1788-07MSD	TW-2MSD	MSD	WATER	03/18/2016	50.0	25.0	
H1788-08	TW-4	SAM	WATER	03/18/2016	50.0	25.0	
H1788-09	TW-5	SAM	WATER	03/18/2016	50.0	25.0	
PB88983BL	PB88983BL	MB	WATER	03/18/2016	50.0	25.0	
PB88983BS	PB88983BS	LCS	WATER	03/18/2016	50.0	25.0	

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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80559

Start date: 03/16/2016 **End date:** 03/16/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1347	HG
S0.2	S0.2	1	1349	HG
S2.5	S2.5	1	1351	HG
S5	S5	1	1354	HG
S7.5	S7.5	1	1401	HG
S10	S10	1	1403	HG
ICV26	ICV26	1	1408	HG
ICB26	ICB26	1	1410	HG
CCV39	CCV39	1	1412	HG
CCB39	CCB39	1	1415	HG
CRA	CRA	1	1417	HG
CCV40	CCV40	1	1445	HG
CCB40	CCB40	1	1447	HG
CCV41	CCV41	1	1511	HG
CCB41	CCB41	1	1513	HG
CCV42	CCV42	1	1539	HG
CCB42	CCB42	1	1541	HG
PB88918BL	PB88918BL	1	1543	HG
PB88918BS	PB88918BS	1	1545	HG
H1788-06	TW-1	1	1547	HG
H1788-07	TW-2	1	1554	HG
H1788-07DUP	TW-2DUP	1	1556	HG
H1788-07MS	TW-2MS	1	1558	HG
H1788-07MSD	TW-2MSD	1	1600	HG
H1788-08	TW-4	1	1602	HG
H1788-09	TW-5	1	1604	HG
CCV43	CCV43	1	1606	HG
CCB43	CCB43	1	1608	HG
H1788-07L	TW-2L	5	1615	HG
CCV44	CCV44	1	1619	HG
CCB44	CCB44	1	1621	HG

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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80576

Start date: 03/17/2016 **End date:** 03/17/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1136	HG
S0.2	S0.2	1	1139	HG
S2.5	S2.5	1	1141	HG
S5	S5	1	1143	HG
S7.5	S7.5	1	1146	HG
S10	S10	1	1151	HG
ICV28	ICV28	1	1154	HG
ICB28	ICB28	1	1156	HG
CCV01	CCV01	1	1158	HG
CCB01	CCB01	1	1200	HG
CRA	CRA	1	1203	HG
CCV02	CCV02	1	1228	HG
CCB02	CCB02	1	1233	HG
CCV03	CCV03	1	1259	HG
CCB03	CCB03	1	1304	HG
CCV04	CCV04	1	1329	HG
CCB04	CCB04	1	1335	HG
CCV05	CCV05	1	1405	HG
CCB05	CCB05	1	1408	HG
CCV06	CCV06	1	1433	HG
CCB06	CCB06	1	1435	HG
CCV07	CCV07	1	1507	HG
CCB07	CCB07	1	1509	HG
PB88945BL	PB88945BL	1	1534	HG
PB88945BS	PB88945BS	1	1537	HG
CCV08	CCV08	1	1541	HG
CCB08	CCB08	1	1544	HG
H1788-01	SB-1(8-9)	1	1546	HG
H1788-02	SB-2(8-9)	1	1548	HG
H1788-03	SB-3(7-8)	1	1550	HG
H1788-04	SB-4(7-8)	1	1553	HG
H1788-05	SB-5(9-10)	1	1555	HG
H1790-04DUP	GRID-8B-(10-20)DUP	1	1602	HG
H1790-04MS	GRID-8B-(10-20)MS	1	1607	HG
H1790-04MSD	GRID-8B-(10-20)MSD	1	1609	HG
CCV09	CCV09	1	1611	HG
CCB09	CCB09	1	1614	HG
CCV10	CCV10	1	1632	HG
CCB10	CCB10	1	1634	HG
H1790-04L	GRID-8B-(10-20)L	5	1646	HG
CCV11	CCV11	1	1650	HG
CCB11	CCB11	1	1653	HG
CCV12	CCV12	1	1718	HG

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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80576

Start date: 03/17/2016 **End date:** 03/17/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
CCB12	CCB12	1	1720	HG
CCV13	CCV13	1	1755	HG
CCB13	CCB13	1	1758	HG
CCV14	CCV14	1	1809	HG
CCB14	CCB14	1	1811	HG

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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80581

Start date: 03/17/2016 **End date:** 03/17/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1100	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1104	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1108	Ca,K,Mg,Na
S3	S3	1	1112	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1116	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1120	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1135	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1139	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1143	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1147	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1151	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1155	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1159	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1203	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1208	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1251	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1255	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1345	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV02	LLCCV02	1	1349	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1353	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1437	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1441	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1525	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1529	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1613	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV03	LLCCV03	1	1617	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1621	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB88957BL	PB88957BL	1	1625	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB88957BS	PB88957BS	1	1629	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-01	SB-1(8-9)	1	1637	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-02	SB-2(8-9)	1	1641	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-03	SB-3(7-8)	1	1645	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-04	SB-4(7-8)	1	1649	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-05	SB-5(9-10)	1	1653	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1790-02DUP	GRID-8A-(0-10)DUP	1	1701	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1705	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1709	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1790-02L	GRID-8A-(0-10)L	5	1713	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1790-02MS	GRID-8A-(0-10)MS	1	1717	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1790-02MSD	GRID-8A-(0-10)MSD	1	1721	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1790-02A	GRID-8A-(0-10)A	1	1725	Sb
CCV08	CCV08	1	1811	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV04	LLCCV04	1	1823	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80581

Start date: 03/17/2016 **End date:** 03/17/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
CCB08	CCB08	1	1827	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV09	CCV09	1	1912	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	1916	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV10	CCV10	1	2001	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV05	LLCCV05	1	2005	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB10	CCB10	1	2009	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV11	CCV11	1	2053	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB11	CCB11	1	2057	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV12	CCV12	1	2141	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB12	CCB12	1	2145	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV13	CCV13	1	2209	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB13	CCB13	1	2213	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

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metals
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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1788 **Sas no.:** H1788 **Sdg no.:** H1788

Instrument id number: **Method:** **Run number:** LB80614

Start date: 03/18/2016 **End date:** 03/18/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1120	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1124	Ag,Al,As,Ba,Be,Cd,Co,Cr,Cu,Fe,Mn,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1128	Ca,K,Mg,Na
S3	S3	1	1132	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1136	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1140	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1144	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1155	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1159	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1203	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1215	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1219	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1223	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV01	LLCCV01	1	1227	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1238	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB88983BL	PB88983BL	1	1336	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB88983BS	PB88983BS	1	1341	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1344	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1348	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-06	TW-1	1	1401	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07	TW-2	1	1405	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07DUP	TW-2DUP	1	1409	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07L	TW-2L	5	1416	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07MS	TW-2MS	1	1420	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07MSD	TW-2MSD	1	1424	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-07A	TW-2A	1	1428	Al
H1788-08	TW-4	1	1432	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1447	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1456	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
H1788-09	TW-5	1	1500	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1619	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1623	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1708	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLCCV02	LLCCV02	1	1712	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1716	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

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LAB CHRONICLE

OrderID:	H1788	**OrderDate:**	3/14/2016 5:06:07 PM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	K31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1788-01	**SB-1(8-9)**	**SOIL**			**03/12/16 16:30**			**03/14/16**
			Cyanide	9012B		03/16/16	03/17/16 11:56	
			Hexavalent Chromium	7196A		03/18/16	03/18/16 14:33	
H1788-02	**SB-2(8-9)**	**SOIL**			**03/12/16 14:25**			**03/14/16**
			Cyanide	9012B		03/16/16	03/17/16 11:56	
			Hexavalent Chromium	7196A		03/18/16	03/18/16 14:33	
H1788-03	**SB-3(7-8)**	**SOIL**			**03/12/16 14:05**			**03/14/16**
			Cyanide	9012B		03/16/16	03/17/16 11:56	
			Hexavalent Chromium	7196A		03/18/16	03/18/16 14:34	
H1788-04	**SB-4(7-8)**	**SOIL**			**03/12/16 15:50**			**03/14/16**
			Cyanide	9012B		03/16/16	03/17/16 12:03	
			Hexavalent Chromium	7196A		03/18/16	03/18/16 14:34	
H1788-05	**SB-5(9-10)**	**SOIL**			**03/12/16 15:20**			**03/14/16**
			Cyanide	9012B		03/16/16	03/17/16 12:03	
			Hexavalent Chromium	7196A		03/18/16	03/18/16 14:35	

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16 16:30
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	SB-1(8-9)	SDG No.:	H1788
Lab Sample ID:	H1788-01	Matrix:	SOIL
		% Solid:	86.5

Parameter	Conc.	Qua.	DF	MDs	s LD	s LQ OC/ Qs	Rnu Unit (Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.143	U	1	0.038	0.143	0.286	mg/Kg	03/16/16 08:20	03/17/16 11:56	9012B
Hexavalent Chromium	0.183	J	1	0.091	0.229	0.457	mg/Kg	03/18/16 10:00	03/18/16 14:33	7196A

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3/ 21(216 14:(O
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3/ 214216
Client Sample ID:	SB-(8)-9H	SDG No.:	7 10))
Lab Sample ID:	7 10)) -3(	Matrix:	S5 IL
		% Solid:	) / ./

Parameter	Conc.	Qua.	DF	MDs	s L D	s L Q	OC/ Qs	Rnu	Ui (Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	3.344	U	1	3.34	3.1O	3./		mg2Kg		3/ 2162216 3) :(3	3/ 2102216 11:O6	931(B
7 exavalent Chromium	3.1))	U	1	3.394	3.(/ O	3.469		mg2Kg		3/ 21) 216 13:33	3/ 21) 216 14:/ /	0196A

Comments:

J = Not Detected
L5 Q = Limit of Quantitation
MDL = Method Detection Limit
L5 D = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
7 = Sample Analysis 5 ut 5 f 7 old Time

U= Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
5 R = 5 ver Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3(/12/16 14:3O
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3(/14/16
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-3(	Matrix:	S5 IL
		% Solid:	93.H

Parameter	Conc.	Qua.	DF	MDs	s L D	s L Q OC/ Qs	Rnu(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	3.12O	U	1	3.3((	3.12O	3.2O	mg/Kg	3(/16/16 3H23	3(/1) /16 11:O6	9312B
0 exavalent Chromium	3.(36	J	1	3.3H)	3.219	3.4( )	mg/Kg	3(/1H/16 13:33	3(/1H/16 14:(4	) 196A

Comments:

U = Not Detected
L5 Q = Limit of Quantitation
MDL = Method Detection Limit
L5 D = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
0 = Sample Analysis 5 ut 5 f 0 old Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
5 R = 5 ver Range
N =Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	3/ 2162214 1O.O3
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	3/ 21(214
Client Sample ID:	SB-(8) -H7	SDG No.:	0 1) HH
Lab Sample ID:	0 1) HH-3(	Matrix:	S5 IL
		% Solid:	HHO

Parameter	Conc.	Qua.	DF	MDs	s L D	s L Q OC/ Qs	Rnu6i (Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	3.1/	U	1	3.3/ (	3.1/ 3	3.6O9	mg2Kg	3/ 2142214 3H63	3/ 21) 214 16:3/	9316B
0 exavalent Chromium	3.3HH	J	1	3.3HH	3.619	3.(/ H	mg2Kg	3/ 21H214 13:33	3/ 21H214 1(:/ (	) 194A

Comments:

U = Not Detected
L5 Q = Limit of Quantitation
MDL = Method Detection Limit
L5 D = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
0 = Sample Analysis 5 ut 5 f 0 old Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
5 R = 5 ver Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	) / 2162 14 1(:6)
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	) / 21O214
Client Sample ID:	SB-(89-1) H	SDG No.:	7 1033
Lab Sample ID:	7 1033-) (	Matrix:	S5 IL
		% Solid:	36.0

Parameter	Conc.	Qua.	DF	MDs	s L D	s L Q OC/ Qs	Rnu6i (Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	) .1(	U	1	) .) O	) .1( )	) .699	mg2Kg	) / 2142 14) 3:6)	) / 2102 14 16:) /	9) 16B
7 exavalent Chromium	) .1OO	J	1	) .) 94	) .6O	) .O3	mg2Kg	) / 2132 14 1) :))	) / 2132 14 1O/ (	0194A

Comments:

U = Not Detected
L5 Q = Limit of Quantitation
MDL = Method Detection Limit
L5 D = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
7 = Sample Analysis 5 ut 5 f 7 old Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
5 R = 5 ver Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Initial and Continuing Calibration Verification

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80586

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	ICV1						
Cyanide		mg/L	0.10	0.10	100	90-110	03/17/2016
Sample ID:	CCV1						
Cyanide		mg/L	0.24	0.25	96	90-110	03/17/2016
Sample ID:	CCV2						
Cyanide		mg/L	0.25	0.25	100	90-110	03/17/2016
Sample ID:	CCV3						
Cyanide		mg/L	0.24	0.25	96	90-110	03/17/2016
Sample ID:	CCV4						
Cyanide		mg/L	0.25	0.25	100	90-110	03/17/2016
Sample ID:	CCV5						
Cyanide		mg/L	0.25	0.25	100	90-110	03/17/2016
Sample ID:	CCV6						
Cyanide		mg/L	0.26	0.25	104	90-110	03/17/2016

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Initial and Continuing Calibration Verification

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80612

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Hexavalent Chromium	mg/L	0.495	0.5	99.0	90-110	03/18/2016
Sample ID: CCV1						
Hexavalent Chromium	mg/L	0.498	0.5	99.6	90-110	03/18/2016
Sample ID: CCV2						
Hexavalent Chromium	mg/L	0.494	0.5	98.8	90-110	03/18/2016
Sample ID: CCV3						
Hexavalent Chromium	mg/L	0.494	0.5	98.8	90-110	03/18/2016

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80586

Analyte		Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID:	ICB1						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB1						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB2						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB3						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB4						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB5						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016
Sample ID:	CCB6						
Cyanide		mg/L	< 0.005	+/-0.005	0.003	0.005	03/17/2016

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80612

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: ICB						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/18/2016
Sample ID: CCB1						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/18/2016
Sample ID: CCB2						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/18/2016
Sample ID: CCB3						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/18/2016

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Preparation Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: PB88931BLS						
Cyanide	mg/Kg	< 0.250	+/-0.250	0.033	0.250	03/17/2016
Sample ID: PB89032BL						
Hexavalent Chromium	mg/Kg	< 0.397	+/-0.397	0.079	0.397	03/18/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1768-02
Client ID: AG-1AS
Percent Solids for Spike Sample: 86.6

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	1.960		0.038	U	2.26	1	85		03/17/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1768-02
Client ID: AG-1ASD
Percent Solids for Spike Sample: 86.6

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	1.990		0.038	U	2.31	1	85		03/17/2016

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1816-04
Client ID: TRACK-D-GRID-9CMS
Percent Solids for Spike Sample: 92.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	84-110	1240		0.086	J	1390	40	89.2		03/18/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1816-04
Client ID: TRACK-D-GRID-9CMS
Percent Solids for Spike Sample: 92.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	42.3		0.086	J	43.3	2	97.5		03/18/2016

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1816-04
Client ID: TRACK-D-GRID-9CMS
Percent Solids for Spike Sample: 92.3

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	84-110	41.5		0.086	J	43.3	2	95.6		03/18/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1768-02
Client ID: AG-1AD
Percent Solids for Spike Sample: 86.6

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.038	U	0.037	U	1	0		03/17/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1768-02
Client ID: AG-1ASD
Percent Solids for Spike Sample: 86.6

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	1.960		1.990		1	1.5		03/17/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1788
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1816-04
Client ID: TRACK-D-GRID-9CDUP
Percent Solids for Spike Sample: 92.3

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.086	J	0.086	J	1	0		03/18/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1788
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80586

Analyte		Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	**PB88931BSS**								
Cyanide		mg/Kg	5.00	4.51		90	1	85-115	03/17/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1788
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80612

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB89032BS								
Hexavalent Chromium	mg/Kg	20	19.8		99.0	1	84-110	03/18/2016

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Method Detection Limits

Client: AKRF Engineering, P.C. **SDG No.:** H1788

Project: NYCSCA - Proposed PS19X Addition

Analyte	Units	MDL	RDL
Method: 7196A Hexavalent Chromium		**MDL Date:**	01/15/2006
Matrix Category: SOLID			
Hexavalent Chromium	mg/Kg	0.08	0.4
Method: 9012B Cyanide		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Cyanide	mg/L	0.003	0.005
Matrix Category: SOLIDS			
Cyanide	mg/Kg	0.033	0.250

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. H1788
QUOTE NO.
COC Number 037469

12.1

CLIENT INFORMATION (REPORT TO BE SENT TO:)

COMPANY: AKRF
ADDRESS: 440 Park Ave South
CITY: NY STATE: NY ZIP: 10016
ATTENTION: Becky Kinal
PHONE: 9149222362 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: 19X (SCA)
PROJECT NO.: 89030 LOCATION: Bronx NY
PROJECT MANAGER: Becky Kinal
e-mail: RKINAL@AKRF.COM
PHONE: 9149222362 FAX:

CLIENT BILLING INFORMATION

BILL TO: SAME/AS PO#:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *
HARD COPY: _____ DAYS *
EDD: 5 DAYS *
PREAPPROVED TAT: ☑ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ LEVEL 1: Results only ☐ Others
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☑ EDD Format: EM91

ANALYSIS

1 TCL+CP 5 VOCs+1,1,1,2 TCA
2 TCL (PS) SVOCs+TIC 8270
3 PCBs 8082
4 TAL Metals 6010/7000
5 Cyanide 9012
6 HCL Chrom 7196
7 TPH DRO/GRO 8015
8
9

PRESERVATIVES

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
									E	F		E	E	E			← Specify Preservatives A–HCl B–HNO_3 C–H_2SO_4 D–NaOH E–ICE F–Other
1.	SB-1 (8'-9')	S	X	X	3/12/16	16:30	6	X	X	X	X	X	X	X			
2.	SB-2 (8'-9')	S	X	X	3/12/16	14:25	6	X	X	X	X	X	X	X			
3.	SB-3 (7-8)	S	X	X	3/12/16	14:05	6	X	X	X	X	X	X	X			
4.	SB-4 (7'-8')	S	X	X	3/12/16	15:50	6	X	X	X	X	X	X	X			
5.	SB-5 (9'-10')	S	X	X	3/12/16	15:20	6	X	X	X	X	X	X	X			
6.	TW-1	GW			3/12/16	17:45	5	X	X	X	X						
7.	TW-2	GW			3/12/16	15:15	5	X	X	X	X						
8.	TW-4	GW			3/12/16	17:15	5	X	X	X	X						
9.	TW-5	GW			3/12/16	16:15	5	X	X	X	X						
10.	Trip Blank							X									

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	10:10 3-14-16 am	1. [signature]
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY 3. [signature]	DATE/TIME: 12:15 3-14-16 pm	RECEIVED FOR LAB BY: 3. [signature]

Conditions of bottles or coolers at receipt: ☑ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments:

Cooler Temp. 5°C
Ice in Cooler?: YES

Page 1 of 1

SHIPPED VIA: CLIENT: ☐ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☑ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☑ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	EP-W-14-030
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Florida	E87935
Louisiana	05035
Maine	2012025
Maryland	296
Massachusetts	M-NJ503
New Hampshire	255413
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-13-00380
Texas	T104704488-13-5

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

12.3

Order ID:	H1788 AKRF02	**Order Date:**	3/14/2016	**Project Mgr:**	SNEHAL
Client Name:	AKRF Engineering, P.C.	**Project Name:**	NYCSCA - Proposed PS19X Ad	**Report Type:**	Results+QC
Client Contact:	Rebecca Kinal, PE	**Rec DateTime**	3/14/2016 12:15:00 PM	**EDD:**	EXCEL NOCLEANUP
Invoice Name:	AKRF Engineering, P.C.	**Purchase Order:**		**Hard Copy Date:**	
Invoice Contact	Rebecca Kinal, PE	**Login Tech:**	harkishan	**Date Signoff:**	3/15/2016 11:44:39 AM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
H1788-01	SB-1(8-9)	Solid	3/12/2016	16:30	6						
						VOCMS Group1		8260C		5 Bus.	
H1788-02	SB-2(8-9)	Solid	3/12/2016	14:25	6						
						VOCMS Group1		8260C		5 Bus.	
H1788-03	SB-3(7-8)	Solid	3/12/2016	14:05	6						
						VOCMS Group1		8260C		5 Bus.	
H1788-04	SB-4(7-8)	Solid	3/12/2016	15:50	6						
						VOCMS Group1		8260C		5 Bus.	
H1788-05	SB-5(9-10)	Solid	3/12/2016	15:20	6						
						VOCMS Group1		8260C		5 Bus.	
H1788-06	TW-1	Water	3/12/2016	17:45	5						
						VOCMS Group1		8260C		5 Bus.	
H1788-07	TW-2	Water	3/12/2016	15:15	5						
						VOCMS Group1		8260C		5 Bus.	
H1788-08	TW-4	Water	3/12/2016	17:15	5						
						VOCMS Group1		8260C		5 Bus.	
H1788-09	TW-5	Water	3/12/2016	16:15	5						
						VOCMS Group1		8260C		5 Bus.	

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

Order ID:	H1788 AKRF02	Order Date:	03/14/16	Project Mgr:	SNEHAL
Client Name:	AKRF Engineering, P.C.	Project Name:	NYCSCA - Proposed PS19X Ad	Report Type:	Results+QC
Client Contact:	Rebecca Kinal, PE	Rec DateTime	03/14/16 12:15:00	EDD:	EXCEL NOCLEANUP
Invoice Name:	AKRF Engineering, P.C.	Purchase Order:		Hard Copy Date:	
Invoice Contact:	Rebecca Kinal, PE	Login Tech:	harkishan	Date Signoff:	03/15/16 11:44:39

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates

SAMPLE CONDITION RECORD

Are samples submitted with a chain of custody?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Are bottle caps tight and securely in place?	Yes
Were all containers intact when received?	Yes
Were samples submitted in an ice chest?	Yes
Were samples received cold?	Yes
Were samples within the holding time for the requested test(s)?	Yes
Is the volume of sample submitted sufficient for the requested test(s)?	Yes
Are all samples for volatile organic analyses free of headspace?	Yes

ORDER COMMENT

PO not required as per Sales---TICs are required, -VOCMS Group1 = TCL VOCs + CP-51. SVOCMS Group1 = TCL SVOC BNA + CP-51. VOCMS Group2, SVOCMS Group2, Metals Group2, and PCB Group2 are for NYCDEP Discharge Parameters.--

Relinquished By: CJ

Date / Time: 3-15-16 11:41

Received By:

Date / Time:

Storage Area: VOA Refridgerator Room

CHEMTECH

DATA PACKAGE

VOLATILE ORGANICS
GENERAL CHEMISTRY
METALS
GC SEMI-VOLATILES
SEMI-VOLATILE ORGANICS

PROJECT NAME : NYCSCA - PROPOSED PS19X ADDITION

AKRF ENGINEERING, P.C.

34 South Broadway, Suite 401

White Plains, NY - 10601

Phone No: 9149497336

ORDER ID : H1782

ATTENTION : Rebecca Kinal, PE

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

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7) PCB Group2 Data 57

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Cover Page

Order ID : H178N

Project ID : YCSAS -P-r opsped9-r A1Xi - 99trtpK

Client : RFE-gK, tKddotK, .-r 2S2

Lab Sample Number	Client Sample Number
H1782-01	TW-2

I-cdortfy-rhan-rhd-9ara-sacka, d-te-tK-cpmsltaKcd-wtrh-rhd-rdome-aK9-cpK9trtpKe-pf-rhd-cpKmoacn.bprh-rdchKtcally-aK9-fpo-cpmsldrdKdee.-fpo-prhdo-rhaK-rhd-cpK9trtpKe-9dratld9-abpvd2-Fdldaed-pf-rhd-9ara-cpKratKd9-tK-rhte-hao9-cpsy-9ara-sacka, d-hae-bddK-aurhpotzd9-by-rhd-labpoarpoy-maKa, do-po-hte-9det, Kdd.-ae-vdotftd9-by-rhd-fpllpwtK, -et, Kanuod2

At, Kanuod-:- Mildred V Reyes

APPROVED

By Mildred V Reyes, QAQC Supervisor at 9:44 am, Mar 28, 2016

Date: 3/25/2016

NYDOH CERTIFICATION NO - 11376

YJDgr-SgFTIEIS TIOY-YO-P-N001N

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284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1782
Test Name: VOCMS Group2

A. Number of Samples and Date of Receipt:
1 Water sample was received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: CBOD5, Chloride, Flash Point, Hexavalent Chromium, Mercury, Metals Group2, Metals ICP-Group, Nitrate+Nitrite, Non-Polar Material, PCB Group2, Phenolics, SVOCMS Group2, TKN, Total Nitrogen, TotalNitrogen, TS, TSS and VOCMS Group2. This data package contains results for VOCMS Group2.

C. Analytical Techniques:
The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.The analysis of VOCMS Group2 was based on method 624.

D. QA/ QC Samples:
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 RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

E. Additional Comments:
F. Manual Integration Comments:

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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 Mildred V Reyes

APPROVED

By Mildred V Reyes, QAQC Supervisor at 9:44 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1782
Test Name: SVOCMS Group2

A. Number of Samples and Date of Receipt:
1 Water sample was received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: CBOD5, Chloride, Flash Point, Hexavalent Chromium, Mercury, Metals Group2, Metals ICP-Group, Nitrate+Nitrite, Non-Polar Material, PCB Group2, Phenolics, SVOCMS Group2, TKN, Total Nitrogen, TotalNitrogen, TS, TSS and VOCMS Group2. This data package contains results for SVOCMS Group2.

C. Analytical Techniques:
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOCMS Group2 was based on method 625 and extraction was done based on method 3510.

D. QA/ QC Samples:
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 RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.

E. Additional Comments:
F. Manual Integration Comments:

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Signature__ Mildred V Reyes ____

APPROVED

By Mildred V Reyes, QAQC Supervisor at 9:44 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1782
Test Name: PCB Group2

A. Number of Samples and Date of Receipt:
1 Water sample was received on 03/14/2016.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: CBOD5, Chloride, Flash Point, Hexavalent Chromium, Mercury, Metals Group2, Metals ICP-Group, Nitrate+Nitrite, Non-Polar Material, PCB Group2, Phenolics, SVOCMS Group2, TKN, Total Nitrogen, TotalNitrogen, TS, TSS and VOCMS Group2. This data package contains results for PCB Group2.

C. Analytical Techniques:
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.The analysis of PCB Group2s was based on method 608 and extraction was done based on method 3510.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.
The RPD recoveries met criteria .
The Blank Spike met requirements for all samples .
The Blank Spike Duplicate met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .

E. Additional Comments:
F. Manual Integration Comments:

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Signature___ Mildred V Reyes __

APPROVED

By Mildred V Reyes, QAQC Supervisor at 9:44 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1782
Test Name: Metals ICP-Group,Mercury

A. Number of Samples and Date of Receipt:
1 Water sample was received on 03/14/2016.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: CBOD5, Chloride, Flash Point, Hexavalent Chromium, Mercury, Metals Group2, Metals ICP-Group, Nitrate+Nitrite, Non-Polar Material, PCB Group2, Phenolics, SVOCMS Group2, TKN, Total Nitrogen, TotalNitrogen, TS, TSS and VOCMS Group2. This data package contains results for Metals ICP-Group,Mercury.

C. Analytical Techniques:
The analysis and digestion of Metals ICP-Group was based on 200.7 and The analysis and digestion of Mercury was based on 245.1.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

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_ Mildred V Reyes ____

APPROVED
By Mildred V Reyes, QAQC Supervisor at 9:37 am, Mar 28, 2016

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CASE NARRATIVE

AKRF Engineering, P.C.
Project Name: NYCSCA - Proposed PS19X Addition
Project # N/A
Chemtech Project # H1782
Test Name: Hexavalent Chromium,Total Nitrogen,TS,CBOD5,Non-Polar Material,Flash Point,Phenolics,TKN,Nitrate+Nitrite,Chloride,TSS

A. Number of Samples and Date of Receipt:
1 Water sample was received on 03/14/2016.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: CBOD5, Chloride, Flash Point, Hexavalent Chromium, Mercury, Metals Group2, Metals ICP-Group, Nitrate+Nitrite, Non-Polar Material, PCB Group2, Phenolics, SVOCMS Group2, TKN, Total Nitrogen, TotalNitrogen, TS, TSS and VOCMS Group2. This data package contains results for Hexavalent Chromium,Total Nitrogen,TS,CBOD5,Non-Polar Material,Flash Point,Phenolics,TKN,Nitrate+Nitrite,Chloride,TSS.

C. Analytical Techniques:
The analysis of Flash Point was based on method 1010A, The analysis of Non-Polar Material was based on method 1664A, The analysis of Nitrate+Nitrite was based on method 300, The analysis of Phenolics was based on method 420.1, The analysis of Total Nitrogen was based on method Cal, The analysis of TS was based on method SM2540 B, The analysis of TSS was based on method SM2540 D, The analysis of Hexavalent Chromium was based on method SM3500-Cr B, The analysis of TKN was based on method SM4500 N Org B or C, The analysis of Chloride was based on method SM4500-CL C and The analysis of CBOD5 was based on method SM5210 B.

D. QA/ QC Samples:
The Holding Times were met for all analysis except for TW-2 for Hexavalent Chromium.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (TW-2MS) analysis met criteria for all samples except for Hexavalent Chromium.
The Matrix Spike Duplicate (TW-2MSD) analysis met criteria for all samples except for Hexavalent Chromium .
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

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__ Mildred V Reyes ____

APPROVED

By Mildred V Reyes, QAQC Supervisor at 9:37 am, Mar 28, 2016

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

U Indicates the analyte was analyzed for, but not detected.

ND Indicates the analyte was analyzed for, but not detected

E Indicates the reported value is estimated because of the presence of interference

M Indicates Duplicate injection precision not met.

N Indicates the spiked sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

***** Indicates that the duplicate analysis is not within control limits.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

D Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

M Method qualifiers
"P" for ICP instrument
"PM" for ICP when Microwave Digestion is used
"CV" for Manual Cold Vapor AA
"AV" for automated Cold Vapor AA
"CA" for MIDI-Distillation Spectrophotometric
"AS" for Semi –Automated Spectrophotometric
"C" for Manual Spectrophotometric
"T" for Titrimetric
"NR" for analyte not required to be analyzed

OR Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.

Q Indicates the LCS did not meet the control limits requirements

H Sample Analysis Out Of Hold Time

QA Control # A3040961

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

QA Control # A3040960

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: H1782

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

1st Level QA Review Signature: MOHINI SONI **Date:** 03/25/2016

2nd Level QA Review Signature: Mildred V Reyes **Date:**

APPROVED
By Mildred V Reyes, QAQC Supervisor at 9:37 am, Mar 28, 2016

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	H1782	**OrderDate:**	3/14/2016 10:27:21 AM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	J53

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1782-01	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			VOCMS Group2	624			03/16/16	

Hit Summary Sheet
SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units

Client ID:

Total Concentration:

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/13/12
Client Sample ID:	TW-H	SDG No.:	7 180H
Lab Sample ID:	7 180H-61	Matrix:	Water
Analytical Method:	E2H-B	% Moisture:	166
Sample Wt/Vol:	5 Units: mL	Final Vol:	5666 uL
Soil Aliquot Vol:	uL	Test:	VOCMS GroupH
GC Column:	RXI-2H-B ID : 6.H-5	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN641H-95.D	1		64/12/12 15:43	VN641212

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1243-63-3	Methyl tert-Butyl Ether	H5	U	6.31	H5	5	ug/L
52-H4-5	Carbon Tetrachloride	H5	U	6.58	H5	5	ug/L
28-22-4	Chloroform	H5	U	6.19	H5	5	ug/L
81-55-2	1,1,1-Trichloroethane	H5	U	6.4	H5	5	ug/L
81-34-H	Benzene	H5	U	6.H2	H5	5	ug/L
160-00-4	Toluene	H5	U	6.18	H5	5	ug/L
166-31-3	Ethyl Benzene	H5	U	6.H2	H5	5	ug/L
1446-H6-8	Total Xylenes	8.5	U	6.58	8.5	15	ug/L
162-32-8	1,3-Dichlorobenzene	H5	U	6.HH	H5	5	ug/L
1H6-0H-1	1,H,3-Trichlorobenzene	H5	U	6.40	H5	5	ug/L
SURROGATES							
18626-68-6	1,H-Dichloroethane-d3	46.4		56 - 129		161%	SPK: 46
H648-H2-5	Toluene-d0	46		22 - 148		166%	SPK: 46
326-66-3	3-Bromofluorobenzene	H5.4		52 - 134		03%	SPK: 46
INTERNAL STANDARDS							
83-98-5	Bromochloromethane	155H65	8.H9				
536-42-4	1,3-Difluorobenzene	0H0112	0.20				
4113-55-3	Chlorobenzene-d5	289301	11.5H				

U J Not Detected
LOQ J Limit of Quantitation
MDL J Method Detection Limit
LOD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
B J Analyte Found in Associated Method Blan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In7 ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: SW624

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
H1782-01	TW-2	1,2-Dichloroethane-d4	30	30.27	101	50	169
		Toluene-d8	30	30.01	100	66	137
		4-Bromofluorobenzene	30	25.31	84	56	143
VN0316WBL01	VN0316WBL01	1,2-Dichloroethane-d4	30	30.68	102	50	169
		Toluene-d8	30	29.66	99	66	137
		4-Bromofluorobenzene	30	24.89	83	56	143
VN0316WBS02	VN0316WBS02	1,2-Dichloroethane-d4	30	30.89	103	50	169
		Toluene-d8	30	30.59	102	66	137
		4-Bromofluorobenzene	30	30.66	102	56	143
VN0316WBSD0	VN0316WBSD02	1,2-Dichloroethane-d4	30	30.43	101	50	169
		Toluene-d8	30	30.05	100	66	137
		4-Bromofluorobenzene	30	29.81	99	56	143

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H0182

Client: AKRF Engineering, P.C.

Analytical Method: SW624 **Data File :** VN031298.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
UNV306WBSV2	Methyl tert-butyl Ether	20	21.6	ug/L	108			73	136	
	Carbon Tetrachloride	20	19.8	ug/L	99			70	140	
	Chloroform	20	20.3	ug/L	102			51	138	
	1,1,1-Trichloroethane	20	19.6	ug/L	98			52	162	
	Benzene	20	20.2	ug/L	101			37	151	
	Toluene	20	20.3	ug/L	102			47	150	
	Ethyl Benzene	20	20.1	ug/L	101			37	162	
	m/p-Xylenes	40	40.1	ug/L	100			70	130	
	o-Xylene	20	20.2	ug/L	101			70	129	
	1,4-Dichlorobenzene	20	20.2	ug/L	101			18	190	
	1,2,4-Trichlorobenzene	20	19.5	ug/L	98			45	153	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H0182

Client: AKRF Engineering, P.C.

Analytical Method: SW624 **Data7ile :** VN0312998

Lab Sample ID	Parameter	Spike	Result	f nit	Rec	RPD	Qual	Limits Low	Limits High	RPD
UNV306WBSDV2	D M4t hyleMer- bchyluet M	20	218E	bg/L	106	0		73	13E	20
	Ca - onlTM4t act yo idM	20	198E	bg/L	96	1		70	140	20
	Ct yo ofo m	20	1986	bg/L	99	3		51	136	20
	1,1,1rT ict yo oM4t anM	20	198E	bg/L	96	0		52	1E2	20
	BM1zM1M	20	2083	bg/L	102	1		37	151	20
	ToybM1M	20	2081	bg/L	101	1		47	150	20
	uet hylBM1zM1M	20	1987	bg/L	99	2		37	1E2	20
	m/prXhyM1M4	40	3985	bg/L	99	1		70	130	20
	orXhyM1M	20	1987	bg/L	99	2		70	129	20
	1,4r. ict yo o- M1zM1M	20	1985	bg/L	96	3		16	190	20
	1,2,4rT ict yo o- M1zM1M	20	1689	bg/L	95	3		45	153	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0316WBL01

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1782

SAS No.: H1782

SDG NO.: H1782

Lab File ID: VN031294.D

Lab Sample ID: VN0316WBL01

Date Analyzed: 03/16/2016

Time Analyzed: 14:05

GC Column: RXI-624

ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
TW-2	H1782-01	VN031295.D	03/16/2016
VN0316WBS02	VN0316WBS02	VN031298.D	03/16/2016
VN0316WBSD02	VN0316WBSD02	VN031299.D	03/16/2016

COMMENTS:

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH
Contract: AKRF02
Lab Code: CHEM
Case No.: H1782
SAS No.: H1782
SDG NO.: H1782
Lab File ID: VN031287.D
BFB Injection Date: 03/16/2016
Instrument ID: MSVOA_N
BFB Injection Time: 10:02
GC Column: RXI-624 ID: 0.25 (mm)
Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.3
75	30.0 - 60.0% of mass 95	45.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7
173	Less than 2.0% of mass 174	0.6 (0.8) 1
174	50.0 - 100.0% of mass 95	76.2
175	5.0 - 9.0% of mass 174	4.8 (6.3) 1
176	95.0 - 101.0% of mass 174	72.7 (95.4) 1
177	5.0 - 9.0% of mass 176	4.4 (6.1) 2

1-Value is % mass 174
2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VN031288.D	03/16/2016	10:33
VSTDICCC020	VSTDICCC020	VN031289.D	03/16/2016	11:02
VSTDICC050	VSTDICC050	VN031290.D	03/16/2016	11:31
VSTDICC100	VSTDICC100	VN031291.D	03/16/2016	12:00
VSTDICC200	VSTDICC200	VN031292.D	03/16/2016	12:29
VN0316WBL01	VN0316WBL01	VN031294.D	03/16/2016	14:05
TW-2	H1782-01	VN031295.D	03/16/2016	15:34
VN0316WBS02	VN0316WBS02	VN031298.D	03/16/2016	17:08
VN0316WBSD02	VN0316WBSD02	VN031299.D	03/16/2016	17:37

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG NO.: H1782

Lab File ID: VN031289.D Date Analyzed: 03/16/2016

Instrument ID: MSVOA_N Time Analyzed: 11:02

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	150722	7.29	823087	8.68	709264	11.52
UPPER LIMIT	301444	7.79	1646170	9.18	1418530	12.02
LOWER LIMIT	75361	6.79	411544	8.18	354632	11.02
EPA SAMPLE NO.						
TW-2	155205	7.29	828116	8.68	679481	11.52
VN0316WBL01	160393	7.29	879857	8.68	726982	11.52
VN0316WBS02	161265	7.29	895402	8.68	760414	11.52
VN0316WBSD02	160914	7.29	874844	8.68	749721	11.52

IS1 = Bromochloromethane
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 LT1	SDG No.:	2 1340
Lab Sample ID:	VNTHI 7W8 LT1	Matrix:	Water
Analytical Method:	E706	% Moisture:	1TT
Sample Wt/Vol:	z 5 nits: mL	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group0
GC Column:	RXI-706 ID : T.0z	Level :	LUW

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 096.D	1		TH/17/17 16:Tz	VNTHI 717

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
17H6-T6-6	Methyl tert-8 utyl Ether	0.z	5	T.61	0.z	z	ug/L
z7-0H-z	Carbon Qetrachloride	0.z	5	T.z3	0.z	z	ug/L
73-77-H	Chloroform	0.z	5	T.19	0.z	z	ug/L
31-zz-7	1,1,1-Qrichloroethane	0.z	5	T.H	0.z	z	ug/L
31-6H-0	8 enBene	0.z	5	T.07	0.z	z	ug/L
1T4-44-H	Qoluene	0.z	5	T.13	0.z	z	ug/L
1TT-61-6	Ethyl 8 enBene	0.z	5	T.07	0.z	z	ug/L
1HHT-0T-3	Qotal Xylenes	3.z	5	T.z3	3.z	1z	ug/L
1T7-67-3	1,6-DichlorobenBene	0.z	5	T.00	0.z	z	ug/L
10T-40-1	1,0,6-QrichlorobenBene	0.z	5	T.H4	0.z	z	ug/L
SURROGATES							
13T7T-T3-T	1,0-Dichloroethane-d6	HT.3		zT - 179		1T0%	SPK: HT
0TH3-07-z	Qoluene-d4	09.3		77 - 1H3		99%	SPK: HT
67T-TT-6	6-8 romofluorobenBene	06.9		z7 - 16H		4H%	SPK: HT
INTERNAL STANDARDS							
36-93-z	8 romochloromethane	17TH9H	3.09				
z6T-H7-H	1,6-DifluorobenBene	4394z3	4.74				
H116-zz-6	ChlorobenBene-dz	307940	11.z0				

5 J Not Detected
LUQ J Limit of Quantitation
MDL J Method Detection Limit
LUD J Limit of Detection
E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
M J MS/MSD acceptance criteria did not meet requirements

k J Estimated Value
8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In2 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 ST0	SDG No.:	2 1340
Lab Sample ID:	VNTHI 7W8 ST0	Matrix:	Water
Analytical Method:	E706	% Moisture:	1TT
Sample Wt/Vol:	z 5 nits: mL	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Oest:	VUCMS Group0
GC Column:	RXI-706 ID : T.0z	Level :	LUW

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 094.D	1		TH/17/17 13:T4	VNTHI 717

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
17H6-T6-6	Methyl tert-8 utyl Ether	01.7		T.61	0.z	z	ug/L
z7-0H-z	Carbon Oetrachloride	19.4		T.z3	0.z	z	ug/L
73-77-H	Chloroform	0T.H		T.19	0.z	z	ug/L
31-zz-7	1,1,1-Orichloroethane	19.7		T.H	0.z	z	ug/L
31-6H-0	8 enBene	0T.0		T.07	0.z	z	ug/L
1T4-44-H	Coluene	0T.H		T.13	0.z	z	ug/L
1TT-61-6	Ethyl 8 enBene	0T.1		T.07	0.z	z	ug/L
1HHT-0T-3	Cotal Xylenes	7T.H		T.z3	3.z	1z	ug/L
1T7-67-3	1,6-DichlorobenBene	0T.0		T.00	0.z	z	ug/L
10T-40-1	1,0,6-OrichlorobenBene	19.z		T.H4	0.z	z	ug/L
SURROGATES							
13T7T-T3-T	1,0-Dichloroethane-d6	HT.9		zT - 179		1TH%	SPK: HT
0TH3-07-z	Coluene-d4	HT.7		77 - 1H3		1T0%	SPK: HT
67T-TT-6	6-8 romofluorobenBene	HT.3		z7 - 16H		1T0%	SPK: HT
INTERNAL STANDARDS							
36-93-z	8 romochloromethane	17107z	3.09				
z6T-H7-H	1,6-DifluorobenBene	49z6T0	4.74				
H116-zz-6	ChlorobenBene-dz	37T616	11.z0				

5 J Not Detected
LUQ J Limit of Quantitation
MDL J Method Detection Limit
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E J Value Exceeds Calibration Range
Q J indicates LCS control criteria did not meet requirements
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k J Estimated Value
8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In2 ouse Limit

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	VNTHI 7W8 SDT0	SDG No.:	2 1340
Lab Sample ID:	VNTHI 7W8 SDT0	Matrix:	Water
Analytical Method:	E706	% Moisture:	1TT
Sample Wt/Vol:	z 5 nits: mL	Final Vol:	zTTT uL
Soil Aliquot Vol:	uL	Qest:	VUCMS Group0
GC Column:	RXI-706 ID : T.0z	Level :	LUW

File ID/Qc 8 atch:	Dilution:	Prep Date	Date AnalyBed	Prep 8 atch ID
VNTHI 099.D	1		TH/17/17 13:HB	VNTHI 717

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
17H6-T6-6	Methyl tert-8 utyl Ether	01.7		T.61	0.z	z	ug/L
z7-0H-z	Carbon Qetrachloride	19.7		T.z3	0.z	z	ug/L
73-77-H	Chloroform	19.4		T.19	0.z	z	ug/L
31-zz-7	1,1,1-Qrichloroethane	19.7		T.H	0.z	z	ug/L
31-6H-0	8 enBene	0T.H		T.07	0.z	z	ug/L
1T4-44-H	Qoluene	0T.1		T.13	0.z	z	ug/L
1TT-61-6	Ethyl 8 enBene	19.3		T.07	0.z	z	ug/L
1HHT-0T-3	Qotal Xylenes	z9.0		T.z3	3.z	1z	ug/L
1T7-67-3	1,6-DichlorobenBene	19.z		T.00	0.z	z	ug/L
10T-40-1	1,0,6-QrichlorobenBene	14.9		T.H4	0.z	z	ug/L
SURROGATES							
13T7T-T3-T	1,0-Dichloroethane-d6	HT.6		zT - 179		1T1%	SPK: HT
0THB-07-z	Qoluene-d4	HT.1		77 - 1HB		1TT%	SPK: HT
67T-TT-6	6-8 romofluorobenBene	09.4		z7 - 16H		99%	SPK: HT
INTERNAL STANDARDS							
36-93-z	8 romochloromethane	17T916	3.09				
z6T-H7-H	1,6-DifluorobenBene	436466	4.74				
HI16-zz-6	ChlorobenBene-dz	369301	11.z0				

5 J Not Detected
LUQ J Limit of Quantitation
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8 J Analyte Found in Associated Method 8 lan*
N J Presumptive Evidence of a Compound
= J Values outside of QC limits
D J Dilution
() J Laboratory In2 ouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG No.: H1782

Instrument ID: MSVOA_N Calibration Date(s): 03/16/2016 03/16/2016

Heated Purge: (Y/N) N Calibration Time(s): 10:33 12:29

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF005 = VN031288.D RRF020 = VN031289.D RRF050 = VN031290.D
RRF100 = VN031291.D RRF200 = VN031292.D RRF =

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF200	RRF	$\overline{RRF}$	% RSD
Methyl tert-Butyl Ether	4.185	4.209	4.344	4.545	4.915		4.439	6.8
Carbon Tetrachloride	0.406	0.406	0.408	0.404	0.418		0.408	1.3
Chloroform	3.296	3.193	3.142	3.126	3.302		3.212	2.6
1,1,1-Trichloroethane	0.479	0.461	0.463	0.464	0.485		0.470	2.3
Benzene	1.345	1.341	1.332	1.317	1.355		1.338	1.1
Toluene	1.698	1.633	1.615	1.577	1.636		1.632	2.7
Ethyl Benzene	1.631	1.668	1.714	1.699	1.756		1.694	2.8
m/p-Xylenes	0.599	0.635	0.647	0.643	0.661		0.637	3.7
o-Xylene	0.587	0.621	0.638	0.631	0.648		0.625	3.7
1,4-Dichlorobenzene	0.595	0.662	0.679	0.679	0.703		0.664	6.2
1,2,4-Trichlorobenzene	0.233	0.309	0.369	0.389	0.435		0.347	22.6
1,2-Dichloroethane-d4	2.177	2.151	2.111	2.118	2.153		2.142	1.3
Toluene-d8	1.452	1.433	1.427	1.395	1.402		1.422	1.6
4-Bromofluorobenzene	0.451	0.471	0.475	0.483	0.473		0.471	2.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG No.: H1782

Instrument ID: MSVOA_N Calibration Date/Time: 03/16/2016 11:02

Lab File ID: VN031289.D Init. Calib. Date(s): 03/16/2016 03/16/2016

Heated Purge: (Y/N) N Init. Calib. Time(s): 10:33 12:29

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF020	MIN RRF	%D	MAX%D
Methyl tert-Butyl Ether	4.439	4.209		-5.19	
Carbon Tetrachloride	0.408	0.406		-0.49	
Chloroform	3.212	3.193		-0.58	
1,1,1-Trichloroethane	0.470	0.461		-2.02	
Benzene	1.338	1.341		0.23	
Toluene	1.632	1.633		0.08	
Ethyl Benzene	1.694	1.668		-1.51	
m/p-Xylenes	0.637	0.635		-0.34	
o-Xylene	0.625	0.621		-0.62	
1,4-Dichlorobenzene	0.664	0.662		-0.27	
1,2,4-Trichlorobenzene	0.347	0.309		-10.93	
1,2-Dichloroethane-d4	2.142	2.151		0.41	
Toluene-d8	1.422	1.433		0.8	
4-Bromofluorobenzene	0.471	0.471		0.04	

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

CHEMTECH

284 Sheffield Street, Mountainside, New Jersey - 07092

Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	H1782	**OrderDate:**	3/14/2016 10:27:21 AM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	J53

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1782-01	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			SVOCMS Group2	625		03/18/16	03/19/16	

CHEMTECH

Hit Summary Sheet
SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :								

Total Concentration:

SAMPLE DATA

CHEMTECH H0QSheffield Street, Mountainside, NJ 6869HPhone: 960 809 0966 Fax: 960 809 09HH

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	64/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	64/1Q/12
Client Sample ID:	TW-H	SDG No.:	7 180H
Lab Sample ID:	7 180H-61	Matrix:	Water
Analytical Method:	2H3	% Moisture:	166
Sample Wt/Vol:	1666 Units: mL	Final Vol:	1666 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS GroupH
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P7 :

File ID/Bc z atch:	Dilution:	Prep Date	Date Analy5ed	Prep z atch ID
z F603328.D	1	64/10/12 60:48	64/19/12 11:1Q	Pz 00901

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
160-93-H	Phenol	1.4	U	6.Q2	1.4	H3	ug/L
1H6-0H-1	1,H,Q-Trichloroben5ene	1.4	U	6.1Q	1.4	H3	ug/L
91-H6-4	Naphthalene	1.4	U	6.19	1.4	H3	ug/L
SURROGATES							
428-1H-Q	H-Fluorophenol	3H3		16 - 126		34%	SPK: 166
141H8-00-4	Phenol-d2	42.H		16 - 121		42%	SPK: 166
Q123-26-6	Nitroben5ene-d3	80.Q		H3 - 1HQ		80%	SPK: 166
4H1-26-0	H-Fluorobiphenyl	88.4		H6 - 1H9		88%	SPK: 166
110-89-2	H,Q2-Tribromophenol	82.9		16 - 1Q6		88%	SPK: 166
1810-31-6	Terphenyl-d1Q	0QH		1Q- 133		0Q%	SPK: 166
INTERNAL STANDARDS							
4033-0H-1	1,Q-Dichloroben5ene-dQ	1H0338	2.03				
11Q2-23-H	Naphthalene-d0	3Q22H8	0.1Q				
13628-H2-H	Acenaphthene-d16	H481H4	9.09				
1318-HH-H	Phenanthrene-d16	Q08H64	11.48				
1819-64-3	Chrysene-d1H	42H299	1Q				
13H6-92-4	Perylene-d1H	H82068	13.Q4				

U = Not Detected
LOB = Limit of Buantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
B = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
z = Analyte Found in Associated Method z lan*
N = Presumptive Evidence of a Compound
k = Values outside of BC limits
D = Dilution
() = Laboratory In7 ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 625

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
H1782-01	TW-2	2-Fluorophenol	100	52.54	53		10	160
		Phenol-d6	100	36.19	36		10	161
		Nitrobenzene-d5	100	78.42	78		25	124
		2-Fluorobiphenyl	100	77.26	77		20	129
		2,4,6-Tribromophenol	100	76.89	77		10	140
		Terphenyl-d14	100	84.24	84		14	155
PB88981BL	PB88981BL	2-Fluorophenol	100	84.96	85		10	160
		Phenol-d6	100	80.80	81		10	161
		Nitrobenzene-d5	100	79.99	80		25	124
		2-Fluorobiphenyl	100	79.58	80		20	129
		2,4,6-Tribromophenol	100	77.81	78		10	140
		Terphenyl-d14	100	76.97	77		14	155
PB88981BS	PB88981BS	2-Fluorophenol	100	69.35	69		10	160
		Phenol-d6	100	67.37	67		10	161
		Nitrobenzene-d5	100	62.72	63		25	124
		2-Fluorobiphenyl	100	64.49	64		20	129
		2,4,6-Tribromophenol	100	66.72	67		10	140
		Terphenyl-d14	100	65.35	65		14	155
PB88981BSD	PB88981BSD	2-Fluorophenol	100	79.69	80		10	160
		Phenol-d6	100	75.72	76		10	161
		Nitrobenzene-d5	100	69.44	69		25	124
		2-Fluorobiphenyl	100	73.13	73		20	129
		2,4,6-Tribromophenol	100	79.17	79		10	140
		Terphenyl-d14	100	69.79	70		14	155

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 625 **DataFile:** BF085551.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88981BS	Phenol	50	29.9	ug/L	60				5	112	
	1,2,4-Trichlorobenzene	50	32.2	ug/L	64				44	142	
	Naphthalene	50	32.3	ug/L	65				21	133	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 625 **DataFile:** BF085552.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88981BSD	Phenol	50	33.8	ug/L	68				5	112	20
	1,2,4-Trichlorobenzene	50	34.8	ug/L	70				44	142	20
	Naphthalene	50	34.9	ug/L	70				21	133	20

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88981BL

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG NO.: H1782

Lab File ID: BF085550.D Lab Sample ID: PB88981BL

Instrument ID: BNA_F Date Extracted: 03/18/2016

Matrix: (soil/water) Water Date Analyzed: 03/19/2016

Level: (low/med) LOW Time Analyzed: 03:21

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB88981BS	PB88981BS	BF085551.D	03/19/2016
PB88981BSD	PB88981BSD	BF085552.D	03/19/2016
TW-2	H1782-01	BF085567.D	03/19/2016

COMMENTS:

Form IV SV

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1782 SDG NO.: H1782

Lab File ID: BF085535.D DFTPP Injection Date: 03/18/2016

Instrument ID: BNA_F DFTPP Injection Time: 15:14

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.1
68	Less than 2.0% of mass 69	0.6 (1.9) 1
69	Mass 69 relative abundance	34.7
70	Less than 2.0% of mass 69	0.4 (1.2) 1
127	10.0 - 80.0% of mass 198	51
197	Less than 2.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	24.4
365	Greater than 1% of mass 198	2.9
441	Present, but less than mass 443	12.9
442	Greater than 50% of mass 198	84
443	15.0 - 24.0% of mass 442	16.2 (19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC02.5	SSTDICC02.5	BF085537.D	03/18/2016	17:19
SSTDICC010	SSTDICC010	BF085538.D	03/18/2016	17:47
SSTDICC025	SSTDICC025	BF085539.D	03/18/2016	18:16
SSTDICCC040	SSTDICCC040	BF085540.D	03/18/2016	18:44
SSTDICC050	SSTDICC050	BF085541.D	03/18/2016	19:13
SSTDICC060	SSTDICC060	BF085542.D	03/18/2016	19:41
SSTDICC080	SSTDICC080	BF085543.D	03/18/2016	20:10

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM SAS No.: H1782 SDG NO.: H1782

Lab File ID: BF085545.D DFTPP Injection Date: 03/19/2016

Instrument ID: BNA_F DFTPP Injection Time: 01:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.7 (1.8) 1
69	Mass 69 relative abundance	37.4
70	Less than 2.0% of mass 69	0.0 (0.0) 1
127	10.0 - 80.0% of mass 198	53.7
197	Less than 2.0% of mass 198	0.0
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	24.3
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	11.3
442	Greater than 50% of mass 198	74.6
443	15.0 - 24.0% of mass 442	14.3 (19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC040	SSTDCCC040	BF085546.D	03/19/2016	01:29
PB88981BL	PB88981BL	BF085550.D	03/19/2016	03:21
PB88981BS	PB88981BS	BF085551.D	03/19/2016	03:49
PB88981BSD	PB88981BSD	BF085552.D	03/19/2016	04:17
TW-2	H1782-01	BF085567.D	03/19/2016	11:14

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG NO.: H1782

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085546.D Time Analyzed: 01:29

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	146217	6.86	579489	8.14	282168	9.90
	UPPER LIMIT	292434	7.36	1158980	8.64	564336	10.4
	LOWER LIMIT	73108.5	6.36	289745	7.64	141084	9.4
	EPA SAMPLE NO.						
01	PB88981BL	129598	6.85	550851	8.14	240866	9.89
02	PB88981BS	137279	6.86	556453	8.14	260864	9.9
03	PB88981BSD	127623	6.86	523071	8.14	241797	9.9
04	TW-2	128557	6.85	546627	8.14	237123	9.89

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG NO.: H1782

EPA Sample No.: SSTDCCC040 Date Analyzed: 03/19/2016

Lab File ID: BF085546.D Time Analyzed: 01:29

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	526834	11.37	433190	14.01	377584	15.44
	UPPER LIMIT	1053670	11.87	866380	14.51	755168	15.94
	LOWER LIMIT	263417	10.87	216595	13.51	188792	14.94
	EPA SAMPLE NO.						
01	PB88981BL	488565	11.37	401237	14.00	355329	15.43
02	PB88981BS	484202	11.37	406362	14.01	310988	15.43
03	PB88981BSD	443843	11.37	391736	14.01	288932	15.43
04	TW-2	487203	11.37	362699	14.00	276807	15.43

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

QC SAMPLE DATA

CHEMTECH 8HOSheffield Street, Mountainside, NJ 32398 Phone: 93H2H9 H933 Fax: 93H2H9 H988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH9H1TL	SDG No.:	6 12H8
Lab Sample ID:	PTHH9H1TL	Matrix:	Water
Analytical Method:	780	% Moisture:	133
Sample Wt/Vol:	1333 z nits: mL	Final Vol:	1333 uL
Soil Aliquot Vol:	uL	Uest:	SV5 CMS Group8
Extraction Uype :	Decanted : N	Level :	L5 W
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P6 :

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
TF3H0003.D	1	3B/1H/17 3H:B2	3B/19/17 3B:81	PTHH9H1

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
13H-90-8	Phenol	1.B	z	3.O7	1.B	8.0	ug/L
183-H8-1	1,8,O-UrichlorobenQene	1.B	z	3.1O	1.B	8.0	ug/L
91-83-B	Naphthalene	1.B	z	3.19	1.B	8.0	ug/L
SURROGATES							
B72-18-O	8-Fluorophenol	H0		13 - 173		H0%	SPK: 133
1B182-HH-B	Phenol-d7	H3.H		13 - 171		H1%	SPK: 133
O170-73-3	NitrobenQene-d0	H3		80 - 18O		H3%	SPK: 133
B81-73-H	8-Fluorobiphenyl	29.7		83 - 189		H3%	SPK: 133
11H-29-7	8,Q,7-Uribromophenol	22.H		13 - 1O3		2H%	SPK: 133
121H-01-3	Uerphenyl-d1O	22		1O- 100		22%	SPK: 133
INTERNAL STANDARDS							
BH00-H8-1	1,O-DichlorobenQene-dO	18909H	7.H0				
11O7-70-8	Naphthalene-dH	003H01	H1O				
10372-87-8	Acenaphthene-d13	8O3H77	9.H9				
1012-88-8	Phenanthrene-d13	OHH070	11.B2				
1219-3B-0	Chrysene-d18	O318B2	1O				
1083-97-B	Perylene-d18	B00B89	10.OB				

z = Not Detected
L5 4 = Limit of 4 uantitation
MDL = Method Detection Limit
L5 D = Limit of Detection
E = Value Exceeds Calibration Range
4 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlan*
N = Presumptive Evidence of a Compound
k = Values outside of 4 C limits
D = Dilution
() = Laboratory In6 ouse Limit

CHEMTECH 8H2 Sheffield Street, Mountainside, NJ 32398 Phone: 93H2H9 H933 Fax: 93H2H9 H988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTH-9-H1TS	SDG No.:	6 12H8
Lab Sample ID:	PTH-9-H1TS	Matrix:	Water
Analytical Method:	780	% Moisture:	133
Sample Wt/Vol:	1333 5 nits: mL	Final Vol:	1333 uL
Soil Aliquot Vol:	uL	Qest:	SVUCMS Group8
Extraction Qype :	Decanted : N	Level :	LUW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P6 :

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
TF3H0001.D	1	3B/1H/17 3H:B2	3B/19/17 3B:z9	PTH-9-H1

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
13H-90-8	Phenol	89.9		3.z7	1.B	8.0	ug/L
183-H8-1	1,8,z-OrichlorobenQene	B8.8		3.1z	1.B	8.0	ug/L
91-83-B	Naphthalene	B8.B		3.19	1.B	8.0	ug/L
SURROGATES							
B72-18-z	8-Fluorophenol	79.z		13 - 173		79%	SPK: 133
1B182-HH-B	Phenol-d7	72.z		13 - 171		72%	SPK: 133
z170-73-3	NitrobenQene-d0	78.2		80 - 18z		7B%	SPK: 133
B81-73-H	8-Fluorobiphenyl	7z.0		83 - 189		7z%	SPK: 133
11H-29-7	8,z,7-Oribromophenol	77.2		13 - 1z3		72%	SPK: 133
121H-01-3	Oerphenyl-d1z	70.z		1z - 100		70%	SPK: 133
INTERNAL STANDARDS							
BH00-H8-1	1,z-DichlorobenQene-dz	1B2829	7.H7				
11z7-70-8	Naphthalene-dH	007z0B	H1z				
10372-87-8	Acenaphthene-d13	873H7z	9.9				
1012-88-8	Phenanthrene-d13	zHz838	11.B2				
1219-3B-0	Chrysene-d18	z37B78	1z.31				
1083-97-B	Perylene-d18	B139HH	10.zB				

5 = Not Detected
LU4 = Limit of 4 uantitation
MDL = Method Detection Limit
LUD = Limit of Detection
E = Value Exceeds Calibration Range
4 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlan*
N = Presumptive Evidence of a Compound
k = Values outside of 4 C limits
D = Dilution
() = Laboratory In6 ouse Limit

CHEMTECH 8H2 Sheffield Street, Mountainside, NJ 32398 Phone: 93H2H9 H933 Fax: 93H2H9 H988

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH9H1TSD	SDG No.:	6 12H8
Lab Sample ID:	PTHH9H1TSD	Matrix:	Water
Analytical Method:	780	% Moisture:	133
Sample Wt/Vol:	1333 5 nits: mL	Final Vol:	1333 uL
Soil Aliquot Vol:	uL	Qest:	SVUCMS Group8
Extraction Qype :	Decanted : N	Level :	LUW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N P6 :

File ID/4 c Tatch:	Dilution:	Prep Date	Date AnalyQed	Prep Tatch ID
TF3H0008.D	1	3B/1H/17 3H:B2	3B/19/17 3z:12	PTHH9H1

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
13H-90-8	Phenol	BB.H		3.z7	1.B	8.0	ug/L
183-H8-1	1,8,z-OrichlorobenQene	Bz.H		3.1z	1.B	8.0	ug/L
91-83-B	Naphthalene	Bz.9		3.19	1.B	8.0	ug/L
SURROGATES							
B72-18-z	8-Fluorophenol	29.2		13 - 173		H3%	SPK: 133
1B182-HH-B	Phenol-d7	20.2		13 - 171		27%	SPK: 133
z170-73-3	NitrobenQene-d0	79.z		80 - 18z		79%	SPK: 133
B81-73-H	8-Fluorobiphenyl	2B.1		83 - 189		2B%	SPK: 133
11H-29-7	8,z,7-Oribromophenol	29.8		13 - 1z3		29%	SPK: 133
121H-01-3	Oerphenyl-d1z	79.H		1z - 100		23%	SPK: 133
INTERNAL STANDARDS							
BH00-H8-1	1,z-DichlorobenQene-dz	18278B	7.H7				
11z7-70-8	Naphthalene-dH	08B321	H1z				
10372-87-8	Acenaphthene-d13	8z1292	9.9				
1012-88-8	Phenanthrene-d13	zzBHzB	11.B2				
1219-3B-0	Chrysene-d18	B912B7	1z.31				
1083-97-B	Perylene-d18	8HH9B8	10.zB				

5 = Not Detected
LU4 = Limit of 4 uantitation
MDL = Method Detection Limit
LUD = Limit of Detection
E = Value Exceeds Calibration Range
4 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlan*
N = Presumptive Evidence of a Compound
k = Values outside of 4 C limits
D = Dilution
() = Laboratory In6 ouse Limit

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG No.: H1782

Instrument ID: BNA_F Calibration Date(s): 03/18/2016 03/18/2016

Calibration Time(s): 17:19 20:10

LAB FILE ID: RRF2.5 = BF085537.D RRF010 = BF085538.D RRF025 = BF085539.D
RRF040 = BF085540.D RRF050 = BF085541.D RRF060 = BF085542.D

COMPOUND	RRF2.5	RRF010	RRF025	RRF040	RRF050	RRF060	RRF	% RSD
2-Fluorophenol	1.296	1.314	1.256	1.263	1.103	1.038	1.191	9.8
Phenol-d6	1.675	1.744	1.580	1.576	1.406	1.447	1.527	10.9
Phenol	1.911	2.047	1.725	1.930	1.486	1.699	1.739	14.0
Nitrobenzene-d5	0.368	0.395	0.356	0.367	0.321	0.296	0.345	10.5
1,2,4-Trichlorobenzene	0.344	0.328	0.309	0.298	0.295	0.283	0.305	7.9
Naphthalene	1.229	1.186	1.008	0.958	0.949	0.911	1.010	14.5
2-Fluorobiphenyl	1.696	1.454	1.286	1.264	1.112	1.006	1.250	21.2
2,4,6-Tribromophenol	0.193	0.189	0.210	0.193	0.177	0.197	0.196	6.2
Terphenyl-d14	0.817	0.855	0.821	0.762	0.892	0.855	0.831	5.0

All other compounds must meet a minimum RRF of 0.010.

Form VI SV-1

Response Factor Report Instrumen

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Fri Mar 18 23:31:39 2016
Response Via : Initial Calibration

Calibration Files
2.5 =BF085537.D 10 =BF085538.D 25 =BF085539.D 40 =BF085540.D 50 =BF085541.D 60 =BF085542.D 80 =BF085543.D

		Compound	2.5	10	25	40	50	60	80	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	----------ISTD----------								
2)		1,4-Dioxane	0.671	0.547	0.570	0.598	0.566	0.553	0.547	0.579	7.64
3)		Pyridine	1.294	1.348	1.311	1.441	1.554	1.527	1.474	1.421	7.36
4)		n-Nitrosodimet...	0.639	0.541	0.612	0.588	0.587	0.599	0.588	0.593	5.00
5)	S	2-Fluorophenol	1.296	1.314	1.256	1.263	1.103	1.038	1.065	1.191	9.84
6)		Aniline	2.170	2.180	2.192	2.067	2.006	1.901	1.843	2.051	6.86
7)	S	Phenol-d6	1.675	1.744	1.580	1.576	1.406	1.447	1.262	1.527	10.88
8)		2-Chlorophenol	1.546	1.484	1.491	1.412	1.239	1.210	1.261	1.377	10.03
9)		Benzaldehyde	1.018	0.951	0.868	0.719	0.649	0.617	0.552	0.768	23.29
10)	C	Phenol	1.911	2.047	1.725	1.930	1.486	1.699	1.378	1.739	14.02
11)		bis(2-Chloroet...	1.450	1.463	1.305	1.376	1.150	1.155	1.280	1.311	9.76
12)		1,3-Dichlorobe...	1.697	1.609	1.533	1.492	1.453	1.434	1.289	1.501	8.72
13)	C	1,4-Dichlorobe...	1.826	1.684	1.552	1.468	1.395	1.403	1.389	1.531	10.99
14)		1,2-Dichlorobe...	1.539	1.492	1.485	1.459	1.273	1.187	1.081	1.359	13.11
15)		Benzyl Alcohol	1.226	1.208	1.089	1.031	1.022	0.922	0.823	1.046	13.89
16)		2,2'-oxybis(1-...	1.904	1.773	1.792	1.802	1.704	1.633	1.464	1.725	8.26
17)		2-Methylphenol	1.194	1.217	1.176	1.146	1.136	1.091	1.032	1.142	5.55
18)		Hexachloroethane	0.604	0.578	0.580	0.560	0.539	0.525	0.484	0.553	7.30
19)	P	n-Nitroso-di-n...	1.118	0.982	0.898	0.949	0.769	0.856	0.813	0.912	12.84
20)		3+4-Methylphenols	1.649	1.575	1.466	1.260	1.185	1.194	0.929	1.323	19.15
21)	I	Naphthalene-d8	----------ISTD----------								
22)		Acetophenone	0.583	0.544	0.516	0.443	0.448	0.419	0.369	0.475	15.93
23)	S	Nitrobenzene-d5	0.368	0.395	0.356	0.367	0.321	0.296	0.310	0.345	10.49
24)		Nitrobenzene	0.422	0.386	0.425	0.361	0.376	0.381	0.289	0.377	12.08
25)		Isophorone	0.737	0.703	0.719	0.684	0.686	0.657	0.642	0.690	4.81
26)	C	2-Nitrophenol	0.180	0.185	0.202	0.210	0.193	0.169	0.165	0.186	8.88
27)		2,4-Dimethylph...	0.359	0.370	0.340	0.315	0.335	0.317	0.271	0.330	9.98
28)		bis(2-Chloroet...	0.466	0.411	0.397	0.421	0.387	0.341	0.323	0.392	12.36
29)	C	2,4-Dichloroph...	0.280	0.282	0.300	0.283	0.257	0.250	0.253	0.272	6.96
30)		1,2,4-Trichlor...	0.344	0.328	0.309	0.298	0.295	0.283	0.276	0.305	7.91
31)		Naphthalene	1.229	1.186	1.008	0.958	0.949	0.911	0.826	1.010	14.51
32)		Benzoic acid	0.253	0.259	0.274	0.284	0.291	0.283	0.285	0.276	5.30
33)		4-Chloroaniline	0.448	0.437	0.429	0.446	0.410	0.362	0.364	0.414	8.97
34)	C	Hexachlorobuta...	0.168	0.172	0.169	0.169	0.164	0.152	0.144	0.162	6.43
35)		Caprolactam	0.092	0.093	0.105	0.096	0.088	0.091	0.090	0.094	6.05
36)	C	4-Chloro-3-met...	0.346	0.350	0.331	0.333	0.278	0.316	0.270	0.318	10.02
37)		2-Methylnaphth...	0.702	0.679	0.693	0.655	0.589	0.528	0.460	0.615	15.08

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M

6

38)	I	Acenaphthene-d10	----------ISTD----------								
39)		1,2,4,5-Tetrac...	0.687	0.656	0.580	0.541	0.599	0.602	0.581	0.607	8.17
40)	P	Hexachlorocycl...	0.187	0.255	0.276	0.280	0.299	0.301	0.316	0.273	15.75
41)	S	2,4,6-Tribromo...	0.193	0.189	0.210	0.193	0.177	0.197	0.212	0.196	6.16
42)	C	2,4,6-Trichlor...	0.429	0.465	0.435	0.397	0.396	0.393	0.393	0.415	6.80
43)		2,4,5-Trichlor...	0.462	0.441	0.417	0.421	0.428	0.404	0.386	0.423	5.81
44)	S	2-Fluorobiphenyl	1.696	1.454	1.286	1.264	1.112	1.006	0.935	1.250	21.17
45)		1,1'-Biphenyl	2.158	2.021	1.692	1.630	1.686	1.575	1.316	1.725	16.33
46)		2-Chloronaphth...	1.469	1.397	1.255	1.258	1.244	1.173	1.025	1.260	11.49
47)		2-Nitroaniline	0.381	0.380	0.419	0.405	0.352	0.348	0.384	0.381	6.76
48)		Acenaphthylene	2.470	2.241	2.207	2.077	1.834	1.719	1.729	2.040	14.10
49)		Dimethylphthalate	1.659	1.660	1.565	1.440	1.421	1.515	1.303	1.509	8.69
50)		2,6-Dinitrotol...	0.300	0.324	0.339	0.293	0.361	0.344	0.269	0.319	10.17
51)	C	Acenaphthene	1.484	1.392	1.398	1.275	1.130	1.132	1.148	1.280	11.51
52)		3-Nitroaniline	0.414	0.408	0.432	0.366	0.394	0.441	0.338	0.399	9.18
53)	P	2,4-Dinitrophenol		0.149	0.198	0.183	0.221	0.229	0.190	0.195	14.61
54)		Dibenzofuran	1.839	1.723	1.759	1.576	1.408	1.338	1.268	1.559	14.39
55)	P	4-Nitrophenol	0.298	0.320	0.316	0.319	0.307	0.340	0.259	0.308	8.15
56)		2,4-Dinitrotol...	0.395	0.455	0.416	0.444	0.424	0.375	0.411	0.417	6.57
57)		Fluorene	1.597	1.475	1.415	1.335	1.170	1.074	1.026	1.299	16.52
58)		2,3,4,6-Tetrac...	0.323	0.325	0.319	0.289	0.284	0.299	0.291	0.304	5.70
59)		Diethylphthalate	1.833	1.608	1.569	1.440	1.303	1.366	1.384	1.501	12.21
60)		4-Chlorophenyl...	0.752	0.754	0.681	0.573	0.545	0.557	0.578	0.634	14.56
61)		4-Nitroaniline	0.387	0.384	0.376	0.422	0.397	0.395	0.393	0.393	3.72
62)		Azobenzene	1.590	1.575	1.566	1.414	1.319	1.310	1.306	1.440	9.26
63)	I	Phenanthrene-d10	----------ISTD----------								
64)		4,6-Dinitro-2-...	0.094	0.117	0.145	0.129	0.142	0.120	0.149	0.128	15.27
65)	c	n-Nitrosodiphe...	0.742	0.745	0.622	0.647	0.580	0.514	0.510	0.623	15.51
66)		4-Bromophenyl-...	0.207	0.215	0.223	0.207	0.189	0.177	0.180	0.200	8.83
67)		Hexachlorobenzene	0.226	0.216	0.231	0.229	0.206	0.194	0.185	0.212	8.43
68)		Atrazine	0.223	0.222	0.200	0.205	0.154	0.135		0.190	19.27
69)	C	Pentachlorophenol	0.115	0.127	0.132	0.137	0.135	0.135	0.122	0.129	6.16
70)		Phenanthrene	1.295	1.206	1.172	1.101	0.940	0.853	0.814	1.055	17.68
71)		Anthracene	1.345	1.328	1.099	0.998	1.031	1.034	0.905	1.106	15.18
72)		Carbazole	1.149	1.073	1.081	0.994	0.839	0.773	0.768	0.954	16.59
73)		Di-n-butylphth...	1.402	1.358	1.358	1.242	1.083	0.994	0.924	1.195	16.17
74)	C	Fluoranthene	1.363	1.263	1.097	1.056	1.057	1.018	0.874	1.104	14.64
75)	I	Chrysene-d12	----------ISTD----------								
76)		Benzidine	0.739	0.812	0.772	0.684	0.647	0.574	0.480	0.673	17.35
77)		Pyrene	1.441	1.435	1.375	1.485	1.575	1.404	1.337	1.436	5.41
78)	S	Terphenyl-d14	0.817	0.855	0.821	0.762	0.892	0.855	0.816	0.831	4.97
79)		Butylbenzylpht...	0.643	0.646	0.676	0.702	0.749	0.697	0.678	0.685	5.33
80)		Benzo(a)anthra...	1.172	1.237	1.192	1.136	1.174	1.128	1.088	1.161	4.19
81)		3,3'-Dichlorob...	0.420	0.432	0.470	0.417	0.419	0.424	0.397	0.426	5.23
82)		Chrysene	1.197	1.087	1.115	1.224	1.199	1.040	0.957	1.117	8.73

Method Path : Z:\HPCHEM1\BNA_F\METHODS\
Method File : 8270-BF031816.M

83)		Bis(2-ethylhex...	0.921	0.872	0.861	0.845	0.868	0.791	0.795	0.850	5.38
84)	c	Di-n-octyl pht...	1.482	1.429	1.523	1.432	1.379	1.277	1.178	1.386	8.69
85)		Indeno(1,2,3-c...	1.033	0.901	0.955	0.873	0.940	0.842	0.990	0.933	7.13
86)	I	Perylene-d12	----------ISTD----------								
87)		Benzo(b)fluora...	1.442	1.313	1.172	1.174	1.435	1.383	1.216	1.305	9.11
88)		Benzo(k)fluora...	1.064	1.119	1.228	1.285	0.911	0.922	0.997	1.075	13.46
89)	C	Benzo(a)pyrene	1.144	1.139	1.132	1.122	1.072	1.074	1.063	1.106	3.20
90)		Dibenzo(a,h)an...	0.980	0.905	0.903	0.882	0.945	0.871	0.974	0.923	4.71
91)		Benzo(g,h,i)pe...	0.969	0.859	0.856	0.846	0.916	0.849	0.958	0.893	5.99

(#) = Out of Range

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG No.: H1782

Instrument ID: BNA_F Calibration Date/Time: 03/19/2016 01:29

Lab File ID: BF085546.D Init. Calib. Date(s): 03/18/2016 03/18/2016

EPA Sample No.: SSTDCCC040 Init. Calib. Time(s): 17:19 20:10

GC Column: RTX-5 ID: 0.18 (mm)

COMPOUND	RRF	RRF040	MIN RRF	%D	MAX%D
2-Fluorophenol	1.191	1.243		4.4	
Phenol-d6	1.527	1.579		3.4	
Phenol	1.739	1.935		11.3	20.0
Nitrobenzene-d5	0.345	0.349		1.2	
1,2,4-Trichlorobenzene	0.305	0.288		-5.6	
Naphthalene	1.010	0.903		-10.6	
2-Fluorobiphenyl	1.250	1.260		0.8	
2,4,6-Tribromophenol	0.196	0.211		7.7	
Terphenyl-d14	0.831	0.745		-10.3	

All other compounds must meet a minimum RRF of 0.010.

Form VII SV-1

CHEMTECH
284 Sheffield Street, Mountainside, New Jersey - 07092
Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	H1782	**OrderDate:**	3/14/2016 10:27:21 AM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	J53

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1782-01	**TW-2**	**Water**			**03/12/16**			**03/14/16**
			PCB Group2	608		03/18/16	03/18/16	

CHEMTECH

Hit Summary Sheet
SW-846

SDG No.: **Order ID:**

Client: **Project ID:**

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :								

Total Concentration:

SAMPLE DATA

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	63/1H/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	63/14/12
Client Sample ID:	TW-H	SDG No.:	7 180H
Lab Sample ID:	7 180H-61	Matrix:	Water
Analytical Method:	260	% Moisture:	166 Decanted:
Sample Wt/Vol:	1666 5 nits: mL	Final Vol:	1666 uL
Soil Aliquot Vol:	uL	Test:	PCB GroupH
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 P7 :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PQ668118.D	1	63/10/12 60:38	63/10/12 14:39	PB00906

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1H284-11-H	Aroclor-1612	6.6HU	5	6.6H	6.6HU	6.6U	ug/L
11164-H0-H	Aroclor-1HH1	6.6HU	5	6.6H	6.6HU	6.6U	ug/L
11141-12-U	Aroclor-1HBH	6.6HU	5	6.660	6.6HU	6.6U	ug/L
U3429-H1-9	Aroclor-1H4H	6.6HU	5	6.61	6.6HU	6.6U	ug/L
1H28H-H9-2	Aroclor-1H40	6.6HU	5	6.61U	6.6HU	6.6U	ug/L
11698-29-1	Aroclor-1HU4	6.6HU	5	6.61H	6.6HU	6.6U	ug/L
11692-0H-U	Aroclor-1H26	6.6HU	5	6.6H4	6.6HU	6.6U	ug/L
SURROGATES							
088-69-0	Tetrachloro-m-xylene	12.0		10 - 123		04%	SPK: H6
H6U1-H4-3	Decachlorobiphenyl	12.0		16 - 188		04%	SPK: H6

Comments:

5 = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >HU% difference for detected concentrations between the two GC columns
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In7 ouse Limit

QC SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Surrogate Summary

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 608 PCB

Lab Sample ID	Client ID	Parameter	Column	Spike	Result	Rec	Qual	Limits Low	Limits High
I.BLK-PQ006997.D	PIBLK-PQ006997.D	Tetrachloro-m-xylene	1	20	20.73	104		35	137
		Decachlorobiphenyl	1	20	21.5	108		40	135
		Tetrachloro-m-xylene	2	20	20.46	102		35	137
		Decachlorobiphenyl	2	20	20.81	104		40	135
I.BLK-PQ007112.D	PIBLK-PQ007112.D	Tetrachloro-m-xylene	1	20	19.86	99		18	163
		Decachlorobiphenyl	1	20	20.25	101		10	177
		Tetrachloro-m-xylene	2	20	21.06	105		18	163
		Decachlorobiphenyl	2	20	19.97	100		10	177
PB88980BS	PB88980BS	Tetrachloro-m-xylene	1	20	17.53	88		18	163
		Decachlorobiphenyl	1	20	18.06	90		10	177
		Tetrachloro-m-xylene	2	20	16.21	81		18	163
		Decachlorobiphenyl	2	20	18.16	91		10	177
PB88980BSD	PB88980BSD	Tetrachloro-m-xylene	1	20	16.25	81		18	163
		Decachlorobiphenyl	1	20	18.23	91		10	177
		Tetrachloro-m-xylene	2	20	17.23	86		18	163
		Decachlorobiphenyl	2	20	18.17	91		10	177
PB88980BL	PB88980BL	Tetrachloro-m-xylene	1	20	17.2	86		18	163
		Decachlorobiphenyl	1	20	18.12	91		10	177
		Tetrachloro-m-xylene	2	20	17.58	88		18	163
		Decachlorobiphenyl	2	20	17.88	89		10	177
H1782-01	TW-2	Tetrachloro-m-xylene	1	20	16.82	84		18	163
		Decachlorobiphenyl	1	20	16.81	84		10	177
		Tetrachloro-m-xylene	2	20	18.02	90		18	163
		Decachlorobiphenyl	2	20	16.42	82		10	177
I.BLK-PQ007118.D	PIBLK-PQ007118.D	Tetrachloro-m-xylene	1	20	20.01	100		18	163
		Decachlorobiphenyl	1	20	20.3	102		10	177
		Tetrachloro-m-xylene	2	20	20.48	102		18	163
		Decachlorobiphenyl	2	20	20.01	100		10	177

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 608 PCB **Datafile :** PQ007114.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PB88980BS	AROCLOR 1016	0.05	0.0489	ug/L	98				50	114	
	AROCLOR 1260	0.05	0.0452	ug/L	90				8	127	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: H1782

Client: AKRF Engineering, P.C.

Analytical Method: 608 PCB **Datafile :** PQ007114.D

Lab Sample ID	Parameter	Spike	Result	Units	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	RPD
PS88980S2D	AROCLOR6101B	0.04	0.0587	ug/L	97	1			40	115	0
	AROCLOR6 B0	0.04	0.0549	ug/L	9				8	1 7	0

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4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB88980BL

Lab Name: CHEMTECH

Contract: AKRF02

Lab Code: CHEM

Case No.: H1782

SAS No.: H1782

SDG NO.: H1782

Lab Sample ID: PB88980BL

Lab File ID: PQ007116.D

Matrix: (soil/water) Water

Extraction: (Type) SEPF

Sulfur Cleanup: (Y/N) N

Date Extracted: 03/18/2016

Date Analyzed (1): 03/18/2016

Date Analyzed (2): 03/18/2016

Time Analyzed (1): 14:25

Time Analyzed (2): 14:25

Instrument ID (1): ECD_Q

Instrument ID (2): ECD_Q

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

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

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED 1	DATE ANALYZED 2
PB88980BS	PB88980BS	PQ007114.D	03/18/2016	03/18/2016
PB88980BSD	PB88980BSD	PQ007115.D	03/18/2016	03/18/2016
TW-2	H1782-01	PQ007117.D	03/18/2016	03/18/2016

COMMENTS:

CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM Case No.: H1782 SAS No.: H1782 SDG NO.: H1782

Instrument ID: ECD_Q Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR1 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PQ006998.D RT 750 = PQ006999.D

RT 500 = PQ007000.D RT 250 = PQ007001.D RT 050 = PQ007002.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	5.46	5.46	5.46	5.46	5.45	5.46	5.36	5.56
Aroclor-1016-2	(2)	5.81	5.81	5.81	5.81	5.81	5.81	5.71	5.91
Aroclor-1016-3	(3)	5.91	5.91	5.91	5.91	5.91	5.91	5.81	6.01
Aroclor-1016-4	(4)	6.20	6.20	6.20	6.20	6.20	6.20	6.10	6.30
Aroclor-1016-5	(5)	6.35	6.34	6.34	6.34	6.34	6.34	6.24	6.44
Aroclor-1260-1	(1)	7.33	7.33	7.33	7.33	7.33	7.33	7.23	7.43
Aroclor-1260-2	(2)	7.58	7.58	7.58	7.58	7.58	7.58	7.48	7.68
Aroclor-1260-3	(3)	7.87	7.87	7.87	7.87	7.87	7.87	7.77	7.97
Aroclor-1260-4	(4)	8.17	8.17	8.17	8.17	8.17	8.17	8.07	8.27
Aroclor-1260-5	(5)	8.50	8.50	8.50	8.50	8.50	8.50	8.40	8.60
Decachlorobiphenyl		10.37	10.37	10.37	10.37	10.37	10.37	10.27	10.47
Tetrachloro-m-xylene		4.55	4.55	4.55	4.54	4.55	4.55	4.45	4.65

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RETENTION TIMES OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Instrument ID: ECD_Q **Calibration Date(s):** 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR2 ID: 0.32 (mm)

LAB FILE ID: RT 1000 = PQ006998.D RT 750 = PQ006999.D

RT 500 = PQ007000.D RT 250 = PQ007001.D RT 050 = PQ007002.D

COMPOUND		RT 1000	RT 750	RT 500	RT 250	RT 050	MEAN RT	RT WINDOW FROM	RT WINDOW TO
Aroclor-1016-1	(1)	4.64	4.64	4.64	4.63	4.63	4.63	4.53	4.73
Aroclor-1016-2	(2)	5.05	5.05	5.05	5.05	5.05	5.05	4.95	5.15
Aroclor-1016-3	(3)	5.09	5.09	5.09	5.09	5.09	5.09	4.99	5.19
Aroclor-1016-4	(4)	5.13	5.13	5.13	5.13	5.13	5.13	5.03	5.23
Aroclor-1016-5	(5)	5.31	5.31	5.31	5.31	5.31	5.30	5.20	5.40
Aroclor-1260-1	(1)	6.34	6.34	6.34	6.34	6.34	6.34	6.24	6.44
Aroclor-1260-2	(2)	6.52	6.52	6.52	6.52	6.52	6.52	6.42	6.62
Aroclor-1260-3	(3)	6.68	6.68	6.68	6.68	6.68	6.68	6.58	6.78
Aroclor-1260-4	(4)	6.86	6.85	6.85	6.85	6.85	6.85	6.75	6.95
Aroclor-1260-5	(5)	7.39	7.39	7.39	7.39	7.39	7.39	7.29	7.49
Decachlorobiphenyl		8.80	8.80	8.80	8.80	8.80	8.80	8.70	8.90
Tetrachloro-m-xylene		3.76	3.76	3.76	3.76	3.76	3.76	3.66	3.86

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Instrument ID: ECD_Q

Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR1 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PQ006998.D CF 750 = PQ006999.D

CF 500 = PQ007000.D CF 250 = PQ007001.D CF 050 = PQ007002.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	163972527	173602588	170087692	187697284	184101320	175892282	6
Aroclor-1016-2	(2)	210026624	225753861	216955848	230712536	264946800	229679134	9
Aroclor-1016-3	(3)	172943012	186422709	179466888	190426596	201920880	186236017	6
Aroclor-1016-4	(4)	172312310	180340329	178572812	189269364	205846600	185268283	7
Aroclor-1016-5	(5)	183672196	190451896	189441316	196628292	201736180	192385976	4
Aroclor-1260-1	(1)	333525721	349987585	346658110	355642276	376595060	352481750	4
Aroclor-1260-2	(2)	396607592	415738805	410690788	415889528	454658800	418717103	5
Aroclor-1260-3	(3)	478797690	501436113	498460722	498063568	495417980	494435215	2
Aroclor-1260-4	(4)	328414420	344685037	342996022	348535240	349776680	342881480	2
Aroclor-1260-5	(5)	644165523	676467081	673419946	643467916	662745680	660053229	2
Decachlorobiphenyl		5755824230	6061430440	6001812880	6249196040	6503776800	6114408078	5
Tetrachloro-m-xylene		7891690730	8291544320	7935283560	8149220320	7191445400	7891836866	5

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CALIBRATION FACTOR OF INITIAL CALIBRATION

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Instrument ID: ECD_Q

Calibration Date(s): 03/15/2016 03/15/2016

Calibration Times: 13:59 14:57

GC Column: ZB-MR2 **ID:** 0.32 (mm)

LAB FILE ID: CF 1000 = PQ006998.D CF 750 = PQ006999.D

CF 500 = PQ007000.D CF 250 = PQ007001.D CF 050 = PQ007002.D

COMPOUND		CF 1000	CF 750	CF 500	CF 250	CF 050	CF	% RSD
Aroclor-1016-1	(1)	81937013	82903613	81977794	87505656	83775180	83619851	3
Aroclor-1016-2	(2)	83261521	87588419	85408218	89114064	85901400	86254724	3
Aroclor-1016-3	(3)	64434958	68601976	68140442	72867872	73068100	69422670	5
Aroclor-1016-4	(4)	78617025	83557685	82986096	87991364	89799740	84590382	5
Aroclor-1016-5	(5)	86007672	91622647	90227038	94922928	92734560	91102969	4
Aroclor-1260-1	(1)	171348337	181860271	178712240	183322328	183212060	179691047	3
Aroclor-1260-2	(2)	210939839	212700836	190689418	209423868	207552500	206261292	4
Aroclor-1260-3	(3)	198171597	208397976	205114486	207781068	207843080	205461641	2
Aroclor-1260-4	(4)	245398848	258525524	254500736	253271864	242125920	250764578	3
Aroclor-1260-5	(5)	390296935	409052251	401972326	385816140	372649040	391957338	4
Decachlorobiphenyl		3393866750	3586649293	3650013420	3653409960	3707961200	3598380125	3
Tetrachloro-m-xylene		3400135950	3545107027	3382643540	3336984400	3205994800	3374173143	4

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF3_

Lab Code: CHEM **Case No.:** H178_ **SAS No.:** H178_ **SDG NO.:** H178_

Instrument ID: ECDQ0 **Date(s) Analyzed:** 3/ 5125_316 3/ 5125_316

GC Column: ZB-MR1 **ID:** 3./ _ (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	4.76	4.66	4.86	76861400
		2	4.85	4.75	4.95	56886200
		3	4.93	4.83	5.03	180757000
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.92	4.82	5.02	151117000
		2	5.46	5.36	5.56	77334800
		3	5.81	5.71	5.91	98664600
		4	5.91	5.81	6.01	78568800
		5	6.20	6.10	6.30	73108000
Aroclor-1242	500	1	5.46	5.36	5.56	133631000
		2	5.91	5.81	6.01	140878000
		3	6.20	6.10	6.30	142575000
		4	6.35	6.25	6.45	158072000
		5	6.65	6.55	6.75	148866000
Aroclor-1248	500	1	6.20	6.10	6.30	238180000
		2	6.34	6.24	6.44	208792000
		3	6.61	6.51	6.71	268130000
		4	6.65	6.55	6.75	257764000
		5	6.80	6.70	6.90	265480000
Aroclor-1254	500	1	6.58	6.48	6.68	264194000
		2	6.80	6.70	6.90	408912000
		3	7.17	7.07	7.27	431280000
		4	7.45	7.35	7.55	315862000
		5	7.73	7.63	7.83	238214000

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Contract: AKRF3_

Lab Code: CHEM **Case No.:** H178_ **SAS No.:** H178_ **SDG NO.:** H178_

Instrument ID: ECDQ0 **Date(s) Analyzed:** 3/ 5125_316 3/ 5125_316

GC Column: ZB-MR_ **ID:** 3./ _ (mm)

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
Aroclor-1221	500	1	3.98	3.88	4.08	31842400
		2	4.07	3.97	4.17	24815800
		3	4.14	4.04	4.24	81265400
		4	0.00			0
		5	0.00			0
Aroclor-1232	500	1	4.14	4.04	4.24	73264200
		2	4.93	4.83	5.03	52373400
		3	5.05	4.95	5.15	37400000
		4	5.30	5.20	5.40	36759600
		5	5.65	5.55	5.75	39983000
Aroclor-1242	500	1	4.64	4.54	4.74	68507400
		2	5.05	4.95	5.15	67482600
		3	5.31	5.21	5.41	78635800
		4	5.66	5.56	5.76	89568000
		5	5.70	5.60	5.80	76216600
Aroclor-1248	500	1	5.09	4.99	5.19	98594600
		2	5.13	5.03	5.23	102583000
		3	5.30	5.20	5.40	122228000
		4	5.66	5.56	5.76	176275000
		5	5.70	5.60	5.80	122248000
Aroclor-1254	500	1	5.66	5.56	5.76	183581000
		2	5.80	5.70	5.90	157551000
		3	6.21	6.11	6.31	263874000
		4	6.52	6.42	6.62	94154800
		5	6.75	6.65	6.85	112812000

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Continuing Calib Date: 03/18/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 13:18 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.45	5.46	5.36	5.56	0.01
Aroclor-1016-2	(2)	5.81	5.81	5.71	5.91	0.00
Aroclor-1016-3	(3)	5.91	5.91	5.81	6.01	0.00
Aroclor-1016-4	(4)	6.20	6.20	6.10	6.30	0.00
Aroclor-1016-5	(5)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-1	(1)	7.33	7.33	7.23	7.43	0.01
Aroclor-1260-2	(2)	7.58	7.58	7.48	7.68	0.00
Aroclor-1260-3	(3)	7.87	7.87	7.77	7.97	0.00
Aroclor-1260-4	(4)	8.17	8.17	8.07	8.27	0.00
Aroclor-1260-5	(5)	8.50	8.50	8.40	8.60	0.00
Tetrachloro-m-xylene		4.54	4.55	4.45	4.65	0.01
Decachlorobiphenyl		10.37	10.37	10.27	10.47	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Continuing Calib Date: 03/18/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 13:18 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR2 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.63	4.64	4.54	4.74	0.01
Aroclor-1016-2	(2)	5.04	5.05	4.95	5.15	0.01
Aroclor-1016-3	(3)	5.08	5.09	4.99	5.19	0.01
Aroclor-1016-4	(4)	5.12	5.13	5.03	5.23	0.01
Aroclor-1016-5	(5)	5.30	5.31	5.21	5.41	0.01
Aroclor-1260-1	(1)	6.33	6.34	6.24	6.44	0.01
Aroclor-1260-2	(2)	6.51	6.52	6.42	6.62	0.01
Aroclor-1260-3	(3)	6.67	6.68	6.58	6.78	0.01
Aroclor-1260-4	(4)	6.84	6.85	6.75	6.95	0.01
Aroclor-1260-5	(5)	7.38	7.39	7.29	7.49	0.01
Tetrachloro-m-xylene		3.76	3.76	3.66	3.86	0.00
Decachlorobiphenyl		8.78	8.80	8.70	8.90	0.02

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CALIBRATION VERIFICATION SUMMARY

Contcast: AKRF0G

Lab Code: CZEM **CaHt No.:** Z182G **SAS No.:** Z182G **SDu NO.:** Z182G

u C Colrmn: - B7MR1 **ID:** 0.3G (mm) **Initi. Calib. Date(H):** 03/15/C016 03/15/C016

Client Sample No.: CCAL01 **Date Analyzed:** 03/12/C016

Lab Sample No.: AR1660CCC500 **Data File :** PQ008113.D **Time Analyzed:** 13:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.454	5.756	5.556	439.610	500.000	-2.1
Aroclor-1016-2	5.303	5.809	5.909	460.290	500.000	-8.9
Aroclor-1016-7	5.903	5.309	6.009	464.390	500.000	-8.0
Aroclor-1016-4	6.201	6.107	6.707	488.710	500.000	-4.5
Aroclor-1016-5	6.747	6.244	6.444	436.000	500.000	-2.3
Aroclor-1260-1	8.725	8.226	8.426	462.810	500.000	-8.5
Aroclor-1260-2	8.531	8.432	8.632	458.900	500.000	-3.4
Aroclor-1260-7	8.366	8.868	8.968	464.110	500.000	-8.2
Aroclor-1260-4	3.169	3.080	3.280	459.690	500.000	-3.1
Aroclor-1260-5	3.500	3.400	3.600	469.210	500.000	-6.2
Decachlorobiphenyl	10.780	10.269	10.469	48.780	50.000	-5.7
Tetrachloro-m-xylene	4.547	4.445	4.645	51.190	50.000	2.4

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CALIBRATION VERIFICATION SUMMARY

Contcast: AKRF0G

Lab Code: CZEM **CaHt No.:** Z182G **SAS No.:** Z182G **SDu NO.:** Z182G

u C Colrmn: - B7MRG **ID:** 0.3G (mm) **Initi. Calib. Date(H):** 03/15/C016 03/15/C016

Client Sample No.: CCAL01 **Date Analyzed:** 03/12/C016

Lab Sample No.: AR1660CCC500 **Data File :** PQ008113.D **Time Analyzed:** 13:12

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.628	4.575	4.875	544.250	500.000	3.9
Aroclor-1016-2	5.042	4.951	5.151	521.180	500.000	4.2
Aroclor-1016-7	5.030	4.939	5.139	512.380	500.000	2.6
Aroclor-1016-4	5.122	5.071	5.271	517.710	500.000	2.8
Aroclor-1016-5	5.296	5.205	5.405	519.310	500.000	4.0
Aroclor-1260-1	6.726	6.273	6.473	498.120	500.000	-0.6
Aroclor-1260-2	6.510	6.422	6.622	525.070	500.000	5.0
Aroclor-1260-7	6.663	6.530	6.830	439.140	500.000	-2.2
Aroclor-1260-4	6.340	6.854	6.954	433.860	500.000	-2.2
Aroclor-1260-5	8.786	8.290	8.490	433.850	500.000	-2.7
Decachlorobiphenyl	3.889	3.801	3.901	48.440	50.000	-5.1
Tetrachloro-m-xylene	7.855	7.660	7.360	52.520	50.000	5.0

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Continuing Calib Date: 03/18/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 15:09 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR1 **ID:** 0.32 **(mm)**

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	5.46	5.46	5.36	5.56	0.01
Aroclor-1016-2	(2)	5.81	5.81	5.71	5.91	0.00
Aroclor-1016-3	(3)	5.91	5.91	5.81	6.01	0.00
Aroclor-1016-4	(4)	6.20	6.20	6.10	6.30	0.00
Aroclor-1016-5	(5)	6.34	6.34	6.24	6.44	0.00
Aroclor-1260-1	(1)	7.33	7.33	7.23	7.43	0.00
Aroclor-1260-2	(2)	7.58	7.58	7.48	7.68	0.00
Aroclor-1260-3	(3)	7.87	7.87	7.77	7.97	0.00
Aroclor-1260-4	(4)	8.17	8.17	8.07	8.27	0.00
Aroclor-1260-5	(5)	8.50	8.50	8.40	8.60	0.00
Tetrachloro-m-xylene		4.54	4.55	4.45	4.65	0.01
Decachlorobiphenyl		10.37	10.37	10.27	10.47	0.00

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

Continuing Calib Date: 03/18/2016 **Initial Calibration Date(s):** 03/15/2016 03/15/2016

Continuing Calib Time: 15:09 **Initial Calibration Time(s):** 13:59 16:42

GC Column: ZB-MR2 **ID:** 0.32 (mm)

COMPOUND		CCAL RT	AVG RT	RT WINDOW FROM	TO	DIFF RT
Aroclor-1016-1	(1)	4.63	4.64	4.54	4.74	0.01
Aroclor-1016-2	(2)	5.04	5.05	4.95	5.15	0.01
Aroclor-1016-3	(3)	5.08	5.09	4.99	5.19	0.01
Aroclor-1016-4	(4)	5.12	5.13	5.03	5.23	0.01
Aroclor-1016-5	(5)	5.30	5.31	5.21	5.41	0.01
Aroclor-1260-1	(1)	6.33	6.34	6.24	6.44	0.01
Aroclor-1260-2	(2)	6.51	6.52	6.42	6.62	0.01
Aroclor-1260-3	(3)	6.67	6.68	6.58	6.78	0.01
Aroclor-1260-4	(4)	6.84	6.85	6.75	6.95	0.01
Aroclor-1260-5	(5)	7.38	7.39	7.29	7.49	0.01
Tetrachloro-m-xylene		3.76	3.76	3.66	3.86	0.00
Decachlorobiphenyl		8.78	8.80	8.70	8.90	0.02

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

GC Column: ZB-MR1 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL02 **Date Analyzed:** 03/18/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007119.D **Time Analyzed:** 15:09

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	5.455	5.756	5.556	439.140	500.000	-2.2
Aroclor-1016-2	5.303	5.809	5.909	460.240	500.000	-3.0
Aroclor-1016-7	5.903	5.309	6.009	465.920	500.000	-6.3
Aroclor-1016-4	6.202	6.107	6.707	486.430	500.000	-4.8
Aroclor-1016-5	6.744	6.244	6.444	437.630	500.000	-7.7
Aroclor-1260-1	8.726	8.226	8.426	464.130	500.000	-8.2
Aroclor-1260-2	8.532	8.432	8.632	459.070	500.000	-3.2
Aroclor-1260-7	8.366	8.868	8.968	466.690	500.000	-6.8
Aroclor-1260-4	3.180	3.080	3.280	456.810	500.000	-3.8
Aroclor-1260-5	3.500	3.400	3.600	484.990	500.000	-5.0
Decachlorobiphenyl	10.769	10.269	10.469	48.390	50.000	-4.2
Tetrachloro-m-xylene	4.544	4.445	4.645	51.230	50.000	2.6

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CALIBRATION VERIFICATION SUMMARY

Contract: AKRF02

Lab Code: CHEM **Case No.:** H1782 **SAS No.:** H1782 **SDG NO.:** H1782

GC Column: ZB-MR2 **ID:** 0.32 (mm) **Initi. Calib. Date(s):** 03/15/2016 03/15/2016

Client Sample No.: CCAL02 **Date Analyzed:** 03/18/2016

Lab Sample No.: AR1660CCC500 **Data File :** PQ007119.D **Time Analyzed:** 15:09

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT(ng)	NOM AMOUNT(ng)	%D
Aroclor-1016-1	4.628	4.575	4.875	540.610	500.000	3.1
Aroclor-1016-2	5.042	4.951	5.151	524.290	500.000	4.9
Aroclor-1016-7	5.030	4.939	5.139	513.180	500.000	7.6
Aroclor-1016-4	5.122	5.071	5.271	516.630	500.000	7.7
Aroclor-1016-5	5.296	5.205	5.405	572.150	500.000	6.4
Aroclor-1260-1	6.726	6.273	6.473	500.220	500.000	0.0
Aroclor-1260-2	6.510	6.422	6.622	570.700	500.000	6.1
Aroclor-1260-7	6.663	6.530	6.830	492.200	500.000	-1.6
Aroclor-1260-4	6.341	6.854	6.954	494.640	500.000	-1.1
Aroclor-1260-5	8.786	8.290	8.490	490.010	500.000	-2.0
Decachlorobiphenyl	3.889	3.801	3.901	48.430	50.000	-5.0
Tetrachloro-m-xylene	7.855	7.660	7.360	52.620	50.000	5.2

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Analytical Sequence

Client: AKRF Engineering, P.C. SDG No.: H1782

Project: NYCSCA - Proposed PS19X Addition Instrument ID: ECD_Q

GC Column: ZB-MR1 ID: 0.32 (mm) Inst. Calib. Date(s): 03/15/2016 03/15/2016

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	03/15/2016	13:44	PQ006997.D	10.37	4.55
AR1660ICC1000	AR1660ICC1000	03/15/2016	13:59	PQ006998.D	10.37	4.55
AR1660ICC750	AR1660ICC750	03/15/2016	14:13	PQ006999.D	10.37	4.55
AR1660ICC500	AR1660ICC500	03/15/2016	14:28	PQ007000.D	10.37	4.55
AR1660ICC250	AR1660ICC250	03/15/2016	14:42	PQ007001.D	10.37	4.54
AR1660ICC50	AR1660ICC50	03/15/2016	14:57	PQ007002.D	10.37	4.55
AR1221ICC500	AR1221ICC500	03/15/2016	15:15	PQ007003.D	10.38	4.55
AR1232ICC500	AR1232ICC500	03/15/2016	15:30	PQ007004.D	10.37	4.55
AR1242ICC500	AR1242ICC500	03/15/2016	15:44	PQ007005.D	10.37	4.55
AR1248ICC500	AR1248ICC500	03/15/2016	15:59	PQ007006.D	10.37	4.55
AR1254ICCC500	AR1254ICCC500	03/15/2016	16:13	PQ007007.D	10.37	4.55
AR1262ICC500	AR1262ICC500	03/15/2016	16:28	PQ007008.D	10.37	4.55
AR1268ICC500	AR1268ICC500	03/15/2016	16:42	PQ007009.D	10.37	4.55
I.BLK	I.BLK	03/18/2016	13:04	PQ007112.D	10.37	4.54
AR1660CCC500	AR1660CCC500	03/18/2016	13:18	PQ007113.D	10.37	4.54
PB88980BS	PB88980BS	03/18/2016	13:54	PQ007114.D	10.39	4.55
PB88980BSD	PB88980BSD	03/18/2016	14:11	PQ007115.D	10.38	4.55
PB88980BL	PB88980BL	03/18/2016	14:25	PQ007116.D	10.37	4.54
TW-2	H1782-01	03/18/2016	14:39	PQ007117.D	10.37	4.54
I.BLK	I.BLK	03/18/2016	14:55	PQ007118.D	10.37	4.54
AR1660CCC500	AR1660CCC500	03/18/2016	15:09	PQ007119.D	10.37	4.54

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Analytical Sequence

Client: AKRF Engineering, P.C. SDG No.: H1782

Project: NYCSCA - Proposed PS19X Addition Instrument ID: ECD_Q

GC Column: ZB-MR2 ID: 0.32 (mm) Inst. Calib. Date(s): 03/15/2016 03/15/2016

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	DATAFILE	DCB RT #	TCX RT #
I.BLK	I.BLK	03/15/2016	13:44	PQ006997.D	8.80	3.76
AR1660ICC1000	AR1660ICC1000	03/15/2016	13:59	PQ006998.D	8.80	3.76
AR1660ICC750	AR1660ICC750	03/15/2016	14:13	PQ006999.D	8.80	3.76
AR1660ICC500	AR1660ICC500	03/15/2016	14:28	PQ007000.D	8.80	3.76
AR1660ICC250	AR1660ICC250	03/15/2016	14:42	PQ007001.D	8.80	3.76
AR1660ICC50	AR1660ICC50	03/15/2016	14:57	PQ007002.D	8.80	3.76
AR1221ICC500	AR1221ICC500	03/15/2016	15:15	PQ007003.D	8.81	3.76
AR1232ICC500	AR1232ICC500	03/15/2016	15:30	PQ007004.D	8.80	3.76
AR1242ICC500	AR1242ICC500	03/15/2016	15:44	PQ007005.D	8.80	3.76
AR1248ICC500	AR1248ICC500	03/15/2016	15:59	PQ007006.D	8.80	3.76
AR1254ICCC500	AR1254ICCC500	03/15/2016	16:13	PQ007007.D	8.80	3.76
AR1262ICC500	AR1262ICC500	03/15/2016	16:28	PQ007008.D	8.80	3.76
AR1268ICC500	AR1268ICC500	03/15/2016	16:42	PQ007009.D	8.80	3.76
I.BLK	I.BLK	03/18/2016	13:04	PQ007112.D	8.78	3.76
AR1660CCC500	AR1660CCC500	03/18/2016	13:18	PQ007113.D	8.78	3.76
PB88980BS	PB88980BS	03/18/2016	13:54	PQ007114.D	8.79	3.75
PB88980BSD	PB88980BSD	03/18/2016	14:11	PQ007115.D	8.78	3.76
PB88980BL	PB88980BL	03/18/2016	14:25	PQ007116.D	8.78	3.76
TW-2	H1782-01	03/18/2016	14:39	PQ007117.D	8.78	3.76
I.BLK	I.BLK	03/18/2016	14:55	PQ007118.D	8.78	3.76
AR1660CCC500	AR1660CCC500	03/18/2016	15:09	PQ007119.D	8.78	3.76

QC SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTH-9H7TL	SDG No.:	U1zH4
Lab Sample ID:	PTH-9H7TL	Matrix:	Water
Analytical Method:	87H	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Bnits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	5est:	PCT Group4
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/0 c Tatch:	Dilution:	Prep Date	Date Analy6ed	Prep Tatch ID
P0 77z118.D	1	72/1H/18 7H2z	72/1H/18 13:4Q	PTH-9H7

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
148z3-11-4	Aroclor-1718	7.74Q	B	7.74	7.74Q	7.7Q	ug/L
11173-4H-4	Aroclor-1441	7.74Q	B	7.74	7.74Q	7.7Q	ug/L
11131-18-Q	Aroclor-1424	7.74Q	B	7.77H	7.74Q	7.7Q	ug/L
Q2389-41-9	Aroclor-1434	7.74Q	B	7.71	7.74Q	7.7Q	ug/L
148z4-49-8	Aroclor-143H	7.74Q	B	7.71Q	7.74Q	7.7Q	ug/L
1179z-89-1	Aroclor-14Q3	7.74Q	B	7.714	7.74Q	7.7Q	ug/L
11798-H4-Q	Aroclor-1487	7.74Q	B	7.743	7.74Q	7.7Q	ug/L
SURROGATES							
H-zz-79-H	5etrachloro-m-xylene	1z.4		1H- 182		H8%	SPK: 47
47Q1-43-2	Decachlorobiphenyl	1H1		17 - 1zz		91%	SPK: 47

Comments:

B = Not Detected
LO0 = Limit of 0 uantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >4Q% difference for detected concentrations between the two GC columns
0 = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of 0 C limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	72/13/18
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	72/13/18
Client Sample ID:	PITLK-PH778990.D	SDG No.:	5 106B
Lab Sample ID:	I.TLK-PH778990.D	Matrix:	Water
Analytical Method:	876	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	zest:	PCT GroupB
Extraction zype:		Injection Volume :	
GPC Factor :	1.0 P5 :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PH778990.D	1		72/13/18	PH721318

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1B80U-11-B	Aroclor-1718	7.1	Q	7.798	7.1	7.3	ug/L
1117U-B6-B	Aroclor-1BB1	7.1	Q	7.1	7.1	7.3	ug/L
111U1-18-3	Aroclor-1B2B	7.1	Q	7.1	7.1	7.3	ug/L
32U89-B1-9	Aroclor-1BUB	7.1	Q	7.769	7.1	7.3	ug/L
1B80B-B9-8	Aroclor-1BU6	7.1	Q	7.1	7.1	7.3	ug/L
11790-89-1	Aroclor-1B3U	7.1	Q	7.7UU	7.1	7.3	ug/L
11798-6B-3	Aroclor-1B87	7.1	Q	7.761	7.1	7.3	ug/L
SURROGATES							
600-79-6	zetrachloro-m-xylene	B7.0		23 - 120		17U%	SPK: B7
B731-BU-2	Decachlorobiphenyl	B1.3		U7 - 123		176%	SPK: B7

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >B3% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory In5 ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	73/12/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	73/12/16
Client Sample ID:	PITLK-PH778110.D	SDG No.:	z 1820
Lab Sample ID:	I.TLK-PH778110.D	Matrix:	Water
Analytical Method:	672	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Best:	PCT Group0
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy4ed	Prep Tatch ID
PH778110.D	1		73/12/16	PH730716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1068U-11-0	Aroclor-1716	7.05	Q	7.0	7.05	7.5	ug/L
1117U-02-0	Aroclor-1001	7.05	Q	7.0	7.05	7.5	ug/L
111Ul-16-5	Aroclor-1030	7.05	Q	7.72	7.05	7.5	ug/L
53U69-01-9	Aroclor-10U0	7.05	Q	7.1	7.05	7.5	ug/L
10680-09-6	Aroclor-10U2	7.05	Q	7.15	7.05	7.5	ug/L
11798-69-1	Aroclor-105U	7.05	Q	7.10	7.05	7.5	ug/L
11796-20-5	Aroclor-1067	7.05	Q	7.0U	7.05	7.5	ug/L
SURROGATES							
288-79-2	Betrachloro-m-xylene	19.9		12 - 163		99%	SPK: 07
0751-0U-3	Decachlorobiphenyl	07.0		17 - 188		171%	SPK: 07

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >05% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	72/10/16
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	72/10/16
Client Sample ID:	PITLK-PH778110.D	SDG No.:	z 1804
Lab Sample ID:	I.TLK-PH778110.D	Matrix:	Water
Analytical Method:	670	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	17777 uL
Soil Aliquot Vol:	uL	Best:	PCT Group4
Extraction Bype:		Injection Volume :	
GPC Factor :	1.0 Pz :		

File ID/Hc Tatch:	Dilution:	Prep Date	Date Analy3ed	Prep Tatch ID
PH778110.D	1		72/10/16	PH724716

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1468U-11-4	Aroclor-1716	7.45	Q	7.4	7.45	7.5	ug/L
1117U-40-4	Aroclor-1441	7.45	Q	7.4	7.45	7.5	ug/L
111Ul-16-5	Aroclor-1424	7.45	Q	7.70	7.45	7.5	ug/L
52U69-41-9	Aroclor-14U4	7.45	Q	7.1	7.45	7.5	ug/L
14684-49-6	Aroclor-14U0	7.45	Q	7.15	7.45	7.5	ug/L
11798-69-1	Aroclor-145U	7.45	Q	7.14	7.45	7.5	ug/L
11796-04-5	Aroclor-1467	7.45	Q	7.4U	7.45	7.5	ug/L
SURROGATES							
088-79-0	Betrachloro-m-xylene	47		10 - 162		177%	SPK: 47
4751-4U-2	Decachlorobiphenyl	47.2		17 - 188		174%	SPK: 47

Comments:

Q = Not Detected
LOH = Limit of Huantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
P = Indicates >45% difference for detected concentrations between the two GC columns
H = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
T = Analyte Found in Associated Method Tlank
N = Presumptive Evidence of a Compound
* = Values outside of HC limits
D = Dilution
S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
() = Laboratory Inz ouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-9H7TS	SDG No.:	U1zHB
Lab Sample ID:	PTHH-9H7TS	Matrix:	Water
Analytical Method:	87H	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 Qnits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	5est:	PCT GroupB
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/0 c Tatch:	Dilution:	Prep Date	Date Analy6ed	Prep Tatch ID
P0 77z114.D	1	72/1H/18 7H2z	72/1H/18 12:34	PTHH-9H7

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1B8z4-11-B	Aroclor-1718	7.74H9	*	7.7B	7.7B3	7.73	ug/L
11174-BH-B	Aroclor-1BB1	7.7B3	Q	7.7B	7.7B3	7.73	ug/L
11141-18-3	Aroclor-1B2B	7.7B3	Q	7.77H	7.7B3	7.73	ug/L
32489-B1-9	Aroclor-1B4B	7.7B3	Q	7.71	7.7B3	7.73	ug/L
1B8zB-B9-8	Aroclor-1B4H	7.7B3	Q	7.713	7.7B3	7.73	ug/L
1179z-89-1	Aroclor-1B34	7.7B3	Q	7.71B	7.7B3	7.73	ug/L
11798-HB-3	Aroclor-1B87	7.743B	*	7.7B4	7.7B3	7.73	ug/L
SURROGATES							
H-zz-79-H	5etrachloro-m-xylene	1z.3		1H- 182		HH%	SPK: B7
B731-B4-2	Decachlorobiphenyl	1H1		17 - 1zz		97%	SPK: B7

Comments:

Q f Not Detected
LO0 f Limit oJ 0 uantitation
MDL f Method Detection Limit
LOD f Limit oJ Detection
E f Value Exceeds Calibration Range
P f Indicates >B3% diJJerence Jor detected concentrations between the two GC columns
0 f indicates LCS control criteria did not meet requirements
M f MS/MSD acceptance criteria did not meet requirements

* f Estimated Value
T f Analyte Found in Associated Method Tlank
N f Presumptive Evidence oJ a Compound
= f Values outside oJ 0 C limits
D f Dilution
S f Indicates estimated value where valid Jive-point calibration was not perJormed prior to analyte detection in sample.
() f Laboratory InUouse Limit

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	
Client Sample ID:	PTHH-9H7TSD	SDG No.:	U1BHQ
Lab Sample ID:	PTHH-9H7TSD	Matrix:	Water
Analytical Method:	87H	% Moisture:	177 Decanted:
Sample Wt/Vol:	1777 4 nits: mL	Final Vol:	1777 uL
Soil Aliquot Vol:	uL	5est:	PCT GroupQ
Extraction 5ype:		Injection Volume :	
GPC Factor :	1.0 PU :		

File ID/0 c Tatch:	Dilution:	Prep Date	Date Analy6ed	Prep Tatch ID
P0 77Bl1z.D	1	72/1H/18 7H:2B	72/1H/18 13:11	PTHH-9H7

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
1Q8B3-11-Q	Aroclor-1718	7.73HB	*	7.7Q	7.7Qz	7.7z	ug/L
11173-QH-Q	Aroclor-1QQl	7.7Qz	4	7.7Q	7.7Qz	7.7z	ug/L
11131-18-z	Aroclor-1Q2Q	7.7Qz	4	7.77H	7.7Qz	7.7z	ug/L
z2389-Ql-9	Aroclor-1Q3Q	7.7Qz	4	7.71	7.7Qz	7.7z	ug/L
1Q8BQ-Q9-8	Aroclor-1Q3H	7.7Qz	4	7.71z	7.7Qz	7.7z	ug/L
1179B-89-1	Aroclor-1Qz3	7.7Qz	4	7.71Q	7.7Qz	7.7z	ug/L
11798-HQ-z	Aroclor-1Q87	7.73z9	*	7.7Q3	7.7Qz	7.7z	ug/L
SURROGATES							
HBB-79-H	5etrachloro-m-xylene	18.Q		1H- 182		H1%	SPK: Q7
Q7z1-Q3-2	Decachlorobiphenyl	1HQ		17 - 1BB		91%	SPK: Q7

Comments:

4 f Not Detected
LO0 f Limit oJ 0 uantitation
MDL f Method Detection Limit
LOD f Limit oJ Detection
E f Value Exceeds Calibration Range
P f Indicates >Qz% diJJerence Jor detected concentrations between the two GC columns
0 f indicates LCS control criteria did not meet requirements
M f MS/MSD acceptance criteria did not meet requirements

* f Estimated Value
T f Analyte Found in Associated Method Tlank
N f Presumptive Evidence oJ a Compound
= f Values outside oJ 0 C limits
D f Dilution
S f Indicates estimated value where valid Jive-point calibration was not perJormed prior to analyte detection in sample.
() f Laboratory InUouse Limit

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Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID:	H1782	**OrderDate:**	3/14/2016 10:27:21 AM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	J53

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1782-01	**TW-2**	**WATER**			**03/12/16**			**03/14/16**
			Mercury	245.1		03/15/16	03/15/16	
			Metals ICP-Group	200.7		03/18/16	03/18/16	

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Hit Summary Sheet
SW-846

SDG No.: H1782 **Order ID:** H1782

Client: AKRF Engineering, P.C. **Project ID:** NYCSCA - Proposed PS19X Addition

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :	**TW-2**								
H1782-01	TW-2	WATER	Copper	19.900		2.6	5.0	10	ug/L
H1782-01	TW-2	WATER	Lead	4.980	J	1.8	3.0	6	ug/L
H1782-01	TW-2	WATER	Mercury	0.250		0.1	0.1	0.2	ug/L
H1782-01	TW-2	WATER	Nickel	30.500		3.7	10.0	20	ug/L
H1782-01	TW-2	WATER	Zinc	34.900		5.6	10.0	20	ug/L

SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/18/12
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/16/12
Client Sample ID:	B(-8	SDG No.:	) 1H78
Lab Sample ID:	) 1H78-01	Matrix:	(ABER
Level 4loO/med5:	loO	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
H660-63-9	Cadmiwm	1.W	u	1	0.6	1.W	3	wg/L	03/17/12 09:30	03/17/12 13:WH	EPA 800.H
H660-W0-7	Copper	19.9		1	8.2	W0	10	wg/L	03/17/12 09:30	03/17/12 13:WH	EPA 800.H
H639-98-1	Lead	6.97	U	1	1.7	3.0	2	wg/L	03/17/12 09:30	03/17/12 13:WH	EPA 800.H
H639-9H-2	Mercwry	0.8W		1	0.1	0.1	0.8	wg/L	03/1W12 11:02	03/1W12 1H60	S(H6HDA
H660-08-0	NicJel	30.W		1	3.H	10.0	80	wg/L	03/17/12 09:30	03/17/12 13:WH	EPA 800.H
H660-22-2	hinc	36.9		1	W2	10.0	80	wg/L	03/17/12 09:30	03/17/12 13:WH	EPA 800.H

Color * eZore:	Colorless	Clarity * eZore:	Clear	Bextwre:	
Color AZter:	Colorless	Clarity AZter:	Clear	ArtiZacts:	
Comments:	Metals Group2				

u k Not Detected
LTf k Limit oZf wantitation
MDL k MetVod Detection Limit
LTD k Limit oZDetection
D k Dilwtion
f k indicates LCS control criteria did not meet reqwirements

Uk Estimated Qalwe
* k Analyte Fownd in Associated MetVod * lanJ
= k indicates tVe dwplicate analysis is not OitVin control limits.
E k Indicates tVe reported valwe is estimated becawse oZtVe presence oZinterZerence.
TR k Tver Range
N kSpiJed sample recovery not OitVin control limits

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV25	Mercury	4.1709	4.0	104.3	90 - 110	CV	03/15/2016	17:08	LB80549

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV34	Mercury	4.8678	5.0	97.4	90 - 110	CV	03/15/2016	17:12	LB80549
CCV35	Mercury	4.9462	5.0	98.9	90 - 110	CV	03/15/2016	17:49	LB80549
CCV36	Mercury	5.1241	5.0	102.5	90 - 110	CV	03/15/2016	18:06	LB80549

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Cadmium	494.37	496	99.7	90 - 110	P	03/18/2016	11:44	LB80614
	Copper	523.62	492	106.4	90 - 110	P	03/18/2016	11:44	LB80614
	Lead	1004.9	1002	100.3	90 - 110	P	03/18/2016	11:44	LB80614
	Nickel	499.99	503	99.4	90 - 110	P	03/18/2016	11:44	LB80614
	Zinc	1050	1025	102.4	90 - 110	P	03/18/2016	11:44	LB80614

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Cadmium	6.43	6.0	107.2	70 - 130	P	03/18/2016	11:55	LB80614
	Copper	20.79	20.0	104	70 - 130	P	03/18/2016	11:55	LB80614
	Lead	13.35	12.0	111.3	70 - 130	P	03/18/2016	11:55	LB80614
	Nickel	39.28	40.0	98.2	70 - 130	P	03/18/2016	11:55	LB80614
	Zinc	41.81	40.0	104.5	70 - 130	P	03/18/2016	11:55	LB80614

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Cadmium	2482.3	2500	99.3	90 - 110	P	03/18/2016	12:23	LB80614
	Copper	1243.5	1250	99.5	90 - 110	P	03/18/2016	12:23	LB80614
	Lead	4911.8	5000	98.2	90 - 110	P	03/18/2016	12:23	LB80614
	Nickel	2477.9	2500	99.1	90 - 110	P	03/18/2016	12:23	LB80614
	Zinc	2506.3	2500	100.3	90 - 110	P	03/18/2016	12:23	LB80614

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV01	Cadmium	6.89	6.0	114.8	70 - 130	P	03/18/2016	12:27	LB80614
	Copper	20.66	20.0	103.3	70 - 130	P	03/18/2016	12:27	LB80614
	Lead	13.2	12.0	110	70 - 130	P	03/18/2016	12:27	LB80614
	Nickel	39.58	40.0	99	70 - 130	P	03/18/2016	12:27	LB80614
	Zinc	43.01	40.0	107.5	70 - 130	P	03/18/2016	12:27	LB80614

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Cadmium	2527.3	2500	101.1	90 - 110	P	03/18/2016	13:44	LB80614
	Copper	1246.7	1250	99.7	90 - 110	P	03/18/2016	13:44	LB80614
	Lead	4939.6	5000	98.8	90 - 110	P	03/18/2016	13:44	LB80614
	Nickel	2499.3	2500	100	90 - 110	P	03/18/2016	13:44	LB80614
	Zinc	2499.1	2500	100	90 - 110	P	03/18/2016	13:44	LB80614
CCV03	Cadmium	2533.2	2500	101.3	90 - 110	P	03/18/2016	14:47	LB80614
	Copper	1244.7	1250	99.6	90 - 110	P	03/18/2016	14:47	LB80614
	Lead	4940	5000	98.8	90 - 110	P	03/18/2016	14:47	LB80614
	Nickel	2502.2	2500	100.1	90 - 110	P	03/18/2016	14:47	LB80614
	Zinc	2578.5	2500	103.1	90 - 110	P	03/18/2016	14:47	LB80614
CCV04	Cadmium	2572.7	2500	102.9	90 - 110	P	03/18/2016	16:19	LB80614
	Copper	1260	1250	100.8	90 - 110	P	03/18/2016	16:19	LB80614
	Lead	5014.7	5000	100.3	90 - 110	P	03/18/2016	16:19	LB80614
	Nickel	2538.6	2500	101.5	90 - 110	P	03/18/2016	16:19	LB80614
	Zinc	2584.5	2500	103.4	90 - 110	P	03/18/2016	16:19	LB80614
CCV05	Cadmium	2522.5	2500	100.9	90 - 110	P	03/18/2016	17:08	LB80614
	Copper	1235.3	1250	98.8	90 - 110	P	03/18/2016	17:08	LB80614
	Lead	4911.8	5000	98.2	90 - 110	P	03/18/2016	17:08	LB80614
	Nickel	2487.6	2500	99.5	90 - 110	P	03/18/2016	17:08	LB80614
	Zinc	2558.1	2500	102.3	90 - 110	P	03/18/2016	17:08	LB80614

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV02	Cadmium	6.57	6.0	109.5	70 - 130	P	03/18/2016	17:12	LB80614
	Copper	19.58	20.0	97.9	70 - 130	P	03/18/2016	17:12	LB80614
	Lead	14.11	12.0	117.6	70 - 130	P	03/18/2016	17:12	LB80614
	Nickel	38.91	40.0	97.3	70 - 130	P	03/18/2016	17:12	LB80614
	Zinc	41.51	40.0	103.8	70 - 130	P	03/18/2016	17:12	LB80614

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Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRA	Mercury	0.2257	0.2	112.9	40 - 160	CV	03/15/2016	17:16	LB80549
CRI01	Cadmium	6.32	6.0	105.3	40 - 160	P	03/18/2016	12:03	LB80614
	Copper	20.9	20.0	104.5	40 - 160	P	03/18/2016	12:03	LB80614
	Lead	13	12.0	108.3	40 - 160	P	03/18/2016	12:03	LB80614
	Nickel	39.11	40.0	97.8	40 - 160	P	03/18/2016	12:03	LB80614
	Zinc	41.85	40.0	104.6	40 - 160	P	03/18/2016	12:03	LB80614

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB25	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/15/2016	17:10	LB80549

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB34	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/15/2016	17:14	LB80549
CCB35	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/15/2016	17:51	LB80549
CCB36	Mercury	0.2	+/-0.2	U	0.1	0.2	CV	03/15/2016	18:08	LB80549

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	11:59	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	11:59	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	11:59	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	11:59	LB80614

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	12:38	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	12:38	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	12:38	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	12:38	LB80614
CCB02	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	13:48	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	13:48	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	13:48	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	13:48	LB80614
CCB03	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	14:56	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	14:56	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	14:56	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	14:56	LB80614
CCB04	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	16:23	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	16:23	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	16:23	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	16:23	LB80614
CCB05	Cadmium	6.0	+/-6.0	U	1.5	6.0	P	03/18/2016	17:16	LB80614
	Copper	20.0	+/-20.0	U	5.0	20.0	P	03/18/2016	17:16	LB80614
	Lead	12.0	+/-12.0	U	3.0	12.0	P	03/18/2016	17:16	LB80614
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614
	Zinc	40.0	+/-40.0	U	10.0	40.0	P	03/18/2016	17:16	LB80614

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB88906BL		**WATER**		**Batch Number:**		**PB88906**		**Prep Date:**	**03/15/2016**	
	Mercury	0.2	<0.2	U	0.1	0.2	CV	03/15/2016	17:23	LB80549

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB88983BL		**WATER**		**Batch Number:**		**PB88983**		**Prep Date:**	**03/18/2016**	
	Cadmium	3.0	<3.0	U	0.75	3.0	P	03/18/2016	13:36	LB80614
	Copper	10.0	<10.0	U	2.5	10.0	P	03/18/2016	13:36	LB80614
	Lead	6.0	<6.0	U	1.5	6.0	P	03/18/2016	13:36	LB80614
	Nickel	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614
	Zinc	20.0	<20.0	U	5.0	20.0	P	03/18/2016	13:36	LB80614

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Metals
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INTERFERENCE CHECK SAMPLE

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Cadmium	-1.55	1.0	155	-5	7	03/18/2016	12:15	LB80614
	Copper	-1.89	2.0	94.5	-18	22	03/18/2016	12:15	LB80614
	Lead	-6.03			-12	12	03/18/2016	12:15	LB80614
	Nickel	4.92	2.0	246	-38	42	03/18/2016	12:15	LB80614
	Zinc	-0.29			-40	40	03/18/2016	12:15	LB80614
ICSAB01	Cadmium	1040	972	107	778	1166	03/18/2016	12:19	LB80614
	Copper	497	511	97.3	409	613	03/18/2016	12:19	LB80614
	Lead	45.9	49.0	93.7	39	59	03/18/2016	12:19	LB80614
	Nickel	1060	954	111.1	763	1145	03/18/2016	12:19	LB80614
	Zinc	1080	952	113.4	762	1142	03/18/2016	12:19	LB80614

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1782

contract: AKRF02 **lab code:** CHEM **case no.:** H1782 **sas no.:** H1782

matrix: WATER **sample id:** H1782-01 **client id:** TW-2MS

Percent Solids for Sample: NA **Spiked ID:** H1782-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	3.92		0.25		4.0	92		CV

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1782

contract: AKRF02 **lab code:** CHEM **case no.:** H1782 **sas no.:** H1782

matrix: WATER **sample id:** H1782-01 **client id:** TW-2MSD

Percent Solids for Sample: NA **Spiked ID:** H1782-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	4.05		0.25		4.0	95		CV

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1782

contract: AKRF02 **lab code:** CHEM **case no.:** H1782 **sas no.:** H1782

matrix: WATER **sample id:** H1788-07 **client id:** TW-2MS

Percent Solids for Sample: NA **Spiked ID:** H1788-07MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cadmium	ug/L	75 - 125	111		3.0	U	100	111		P
Copper	ug/L	75 - 125	170		6.7	J	150	109		P
Lead	ug/L	75 - 125	545		2.3	J	500	109		P
Nickel	ug/L	75 - 125	291		13.8	J	250	111		P
Zinc	ug/L	75 - 125	130		15.5	J	100	115		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: AKRF Engineering, P.C. **level:** low **sdg no.:** H1782

contract: AKRF02 **lab code:** CHEM **case no.:** H1782 **sas no.:** H1782

matrix: WATER **sample id:** H1788-07 **client id:** TW-2MSD

Percent Solids for Sample: NA **Spiked ID:** H1788-07MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cadmium	ug/L	75 - 125	111		3.0	U	100	111		P
Copper	ug/L	75 - 125	171		6.7	J	150	110		P
Lead	ug/L	75 - 125	544		2.3	J	500	108		P
Nickel	ug/L	75 - 125	291		13.8	J	250	111		P
Zinc	ug/L	75 - 125	128		15.5	J	100	113		P

CHEMTECH

Metals
- 5b -

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Matrix: **Level:** LOW **Client ID:**

Sample ID: **Spiked ID:**

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Matrix: WATER **Sample ID:** H1782-01 **Client ID:** TW-2DUP

Percent Solids for Sample: NA **Duplicate ID** H1782-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.25		0.292		15		CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Matrix: WATER **Sample ID:** H1782-01MS **Client ID:** TW-2MSD

Percent Solids for Sample: NA **Duplicate ID** H1782-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	3.92		4.05		3		CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Matrix: WATER **Sample ID:** H1788-07 **Client ID:** TW-2DUP

Percent Solids for Sample: NA **Duplicate ID** H1788-07DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cadmium	ug/L	20	3.0	U	3.0	U			P
Copper	ug/L	20	6.7	J	6.65	J	1		P
Lead	ug/L	20	2.3	J	2.07	J	11		P
Nickel	ug/L	20	13.8	J	13.4	J	3		P
Zinc	ug/L	20	15.5	J	14.5	J	7		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **Level:** LOW **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Matrix: WATER **Sample ID:** H1788-07MS **Client ID:** TW-2MSD

Percent Solids for Sample: NA **Duplicate ID** H1788-07MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cadmium	ug/L	20	111		111		0		P
Copper	ug/L	20	170		171		1		P
Lead	ug/L	20	545		544		0		P
Nickel	ug/L	20	291		291		0		P
Zinc	ug/L	20	130		128		2		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88906BS							
Mercury	ug/L	4.0	4.02		100.5	80 - 120	CV

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Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB88983BS							
Cadmium	ug/L	100	101		101	80 - 120	P
Copper	ug/L	150	161		107.3	80 - 120	P
Lead	ug/L	500	498		99.6	80 - 120	P
Nickel	ug/L	250	257		102.8	80 - 120	P
Zinc	ug/L	100	104		104	80 - 120	P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

TW-2L

Lab Name: Chemtech Consulting Group **Contract:** AKRF02

Lab Code: CHEM **Lb No.:** lb80549 **Lab Sample ID :** H1782-01L **SDG No.:** H1782

Matrix (soil/water): WATER **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Mercury	0.25		1.0	U	100.0		CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

TW-2L

Lab Name: Chemtech Consulting Group **Contract:** AKRF02

Lab Code: CHEM **Lb No.:** lb80614 **Lab Sample ID :** H1788-07L **SDG No.:** H1782

Matrix (soil/water): WATER **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Cadmium	3.0	U	15.0	U			P
Copper	6.7	J	50.0	U	100.0		P
Lead	2.3	J	30.0	U	100.0		P
Nickel	13.8	J	100	U	100.0		P
Zinc	15.5	J	100	U	100.0		P

METAL PREPARATION & INSTRUMENT DATA

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Metals

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Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: P4 **Preparation Method:**

Analyte	Wave- length (nm)	MDL	LOD	PQL	Date:
LIQUID					
Method:	**200.7**				
Cadmium	226.50	0.40	1.5	3	
Copper	224.70	2.6	5.0	10	
Lead	220.35	1.8	3.0	6	
Nickel	231.60	3.7	10.0	20	
Zinc	213.8	5.6	10.0	20	

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Cadmium	226.502	0.0000000	0.0000000	0.0000840	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0001620	0.0000000	0.0000000
Lead	220.353	-0.0001070	0.0000000	0.0000280	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001900	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0001570
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0004170
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000600
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0014660
Lead	220.353	-0.0003060	0.0000000	0.0000000	0.0001250	-0.0013650
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0020550
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Cadmium	226.502	0.0000000	-0.0000930	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0049290	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0002444	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0057000	0.0000000	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: _____ **Date:** _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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Metals

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LINEAR RANGES

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Case No.:** H1782 **SAS No.:** H1782

Instrument ID: P4 **Date:** 02/20/2015

Analyte	Integration Time (sec)	LDR ug/L
Cadmium	10	10000
Copper	10	300000
Lead	10	280000
Nickel	10	70000
Zinc	10	40000

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1782 **SAS No.:** H1782

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88906**						
H1782-01	TW-2	SAM	WATER	03/15/2016	30.0	30.0	
H1782-01DUP	TW-2DUP	DUP	WATER	03/15/2016	30.0	30.0	
H1782-01MS	TW-2MS	MS	WATER	03/15/2016	30.0	30.0	
H1782-01MSD	TW-2MSD	MSD	WATER	03/15/2016	30.0	30.0	
PB88906BL	PB88906BL	MB	WATER	03/15/2016	30.0	30.0	
PB88906BS	PB88906BS	LCS	WATER	03/15/2016	30.0	30.0	

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Metals
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SAMPLE PREPARATION SUMMARY

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Contract: AKRF02 **Lab Code:** CHEM **Method:**

Case No.: H1782 **SAS No.:** H1782

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB88983**						
H1782-01	TW-2	SAM	WATER	03/18/2016	50.0	25.0	
H1788-07DUP	TW-2DUP	DUP	WATER	03/18/2016	50.0	25.0	
H1788-07MS	TW-2MS	MS	WATER	03/18/2016	50.0	25.0	
H1788-07MSD	TW-2MSD	MSD	WATER	03/18/2016	50.0	25.0	
PB88983BL	PB88983BL	MB	WATER	03/18/2016	50.0	25.0	
PB88983BS	PB88983BS	LCS	WATER	03/18/2016	50.0	25.0	

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metals
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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1782 **Sas no.:** H1782 **Sdg no.:** H1782

Instrument id number: **Method:** **Run number:** LB80549

Start date: 03/15/2016 **End date:** 03/15/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1652	HG
S0.2	S0.2	1	1654	HG
S2.5	S2.5	1	1656	HG
S5	S5	1	1659	HG
S7.5	S7.5	1	1701	HG
S10	S10	1	1703	HG
ICV25	ICV25	1	1708	HG
ICB25	ICB25	1	1710	HG
CCV34	CCV34	1	1712	HG
CCB34	CCB34	1	1714	HG
CRA	CRA	1	1716	HG
PB88906BL	PB88906BL	1	1723	HG
PB88906BS	PB88906BS	1	1733	HG
H1782-01	TW-2	1	1740	HG
H1782-01DUP	TW-2DUP	1	1742	HG
H1782-01MS	TW-2MS	1	1744	HG
H1782-01MSD	TW-2MSD	1	1747	HG
CCV35	CCV35	1	1749	HG
CCB35	CCB35	1	1751	HG
H1782-01L	TW-2L	5	1801	HG
CCV36	CCV36	1	1806	HG
CCB36	CCB36	1	1808	HG

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metals
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ANALYSIS RUN LOG

Client: AKRF Engineering, P.C. **Contract:** AKRF02

Lab code: CHEM **Case no.:** H1782 **Sas no.:** H1782 **Sdg no.:** H1782

Instrument id number: **Method:** **Run number:** LB80614

Start date: 03/18/2016 **End date:** 03/18/2016

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1120	Cd,Cu,Ni,Pb,Zn
S1	S1	1	1124	Cd,Cu,Ni,Pb,Zn
S2	S2	1	1128	,
S3	S3	1	1132	Cd,Cu,Ni,Pb,Zn
S4	S4	1	1136	Cd,Cu,Ni,Pb,Zn
S5	S5	1	1140	Cd,Cu,Ni,Pb,Zn
ICV01	ICV01	1	1144	Cd,Cu,Ni,Pb,Zn
LLICV01	LLICV01	1	1155	Cd,Cu,Ni,Pb,Zn
ICB01	ICB01	1	1159	Cd,Cu,Ni,Pb,Zn
CRI01	CRI01	1	1203	Cd,Cu,Ni,Pb,Zn
ICSA01	ICSA01	1	1215	Cd,Cu,Ni,Pb,Zn
ICSAB01	ICSAB01	1	1219	Cd,Cu,Ni,Pb,Zn
CCV01	CCV01	1	1223	Cd,Cu,Ni,Pb,Zn
LLCCV01	LLCCV01	1	1227	Cd,Cu,Ni,Pb,Zn
CCB01	CCB01	1	1238	Cd,Cu,Ni,Pb,Zn
PB88983BL	PB88983BL	1	1336	Cd,Cu,Ni,Pb,Zn
PB88983BS	PB88983BS	1	1341	Cd,Cu,Ni,Pb,Zn
CCV02	CCV02	1	1344	Cd,Cu,Ni,Pb,Zn
CCB02	CCB02	1	1348	Cd,Cu,Ni,Pb,Zn
H1782-01	TW-2	1	1357	Cd,Cu,Ni,Pb,Zn
H1788-07DUP	TW-2DUP	1	1409	Cd,Cu,Ni,Pb,Zn
H1788-07L	TW-2L	5	1416	Cd,Cu,Ni,Pb,Zn
H1788-07MS	TW-2MS	1	1420	Cd,Cu,Ni,Pb,Zn
H1788-07MSD	TW-2MSD	1	1424	Cd,Cu,Ni,Pb,Zn
CCV03	CCV03	1	1447	Cd,Cu,Ni,Pb,Zn
CCB03	CCB03	1	1456	Cd,Cu,Ni,Pb,Zn
CCV04	CCV04	1	1619	Cd,Cu,Ni,Pb,Zn
CCB04	CCB04	1	1623	Cd,Cu,Ni,Pb,Zn
CCV05	CCV05	1	1708	Cd,Cu,Ni,Pb,Zn
LLCCV02	LLCCV02	1	1712	Cd,Cu,Ni,Pb,Zn
CCB05	CCB05	1	1716	Cd,Cu,Ni,Pb,Zn

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LAB CHRONICLE

OrderID:	H1782	**OrderDate:**	3/14/2016 10:27:21 AM
Client:	AKRF Engineering, P.C.	**Project:**	NYCSCA - Proposed PS19X Addition
Contact:	Rebecca Kinal, PE	**Location:**	J53

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
H1782-01	**TW-2**	**WATER**			**03/12/16 15:15**			**03/14/16**
			CBOD5	SM5210 B			03/14/16 13:30	
			Chloride	SM4500-CL C			03/21/16 09:02	
			Flash Point	1010A			03/14/16 14:40	
			Hexavalent Chromium	SM3500-Cr B			03/14/16 13:52	
			Nitrate+Nitrite	300			03/14/16 16:22	
			Non-Polar Material	1664A			03/18/16 12:05	
			Phenolics	420.1		03/17/16	03/18/16 16:19	
			TKN	SM4500 N Org B or C		03/17/16	03/18/16 14:57	
			Total Nitrogen	Cal			03/18/16 00:00	
			TS	SM2540 B			03/15/16 16:30	
			TSS	SM2540 D			03/17/16 11:00	

SAMPLE DATA

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Report of Analysis

Client:	AKRF Engineering, P.C.	Date Collected:	03/12/16 15:15
Project:	NYCSCA - Proposed PS19X Addition	Date Received:	03/14/16
Client Sample ID:	TW-2	SDG No.:	H1782
Lab Sample ID:	H1782-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDs	s LD	s LQ OC/ Qs	Rnl6i	Prep Date	Date Ana.	Ana Met.
CBOD5	2	U	1	2	2	2	mg/L		03/14/16 13:30	SM5210 B
Chloride	91		1	0.4	2.5	5	mg/L		03/21/16 09:02	SM4500-CL C
Flashpoint	>212		1	0	0	0	o F		03/14/16 14:40	1010A
Hexavalent Chromium	0.002	HJ	1	0.002	0.005	0.01	mg/L		03/14/16 13:52	SM3500-Cr-B
Nitrate+Nitrite	0.25	U	1	0.25	0.25	0.25	mg/L		03/14/16 16:22	300
Non-Polar Material	1.11	J	1	0.679	2.5	5	mg/L		03/18/16 12:05	1664A
Phenolics	0.025	U	1	0.002	0.025	0.05	mg/L	03/17/16 11:16	03/18/16 16:19	420.1
TKN	0.223	J	1	0.096	0.25	0.5	mg/L	03/17/16 09:45	03/18/16 14:57	SM4500-N Org B or C
Total Nitrogen	0.223	J	1	0.75	0.75	0.75	mg/L		03/18/16 00:00	CAL
TS	612		1	10	10	10	mg/L		03/15/16 16:30	SM2540B
TSS	77.3		1	4	4	4	mg/L		03/17/16 11:00	SM2540D

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

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Initial and Continuing Calibration Verification

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80532

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Flashpoint	o F	82.40	81.50	101	90-110	03/14/2016

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Initial and Continuing Calibration Verification

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80534A

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1						
Nitrate+Nitrite	mg/L	13.70	13.80	99	90-110	02/29/2016
Sample ID: CCV1						
Nitrate+Nitrite	mg/L	12.60	13.20	95	90-110	03/14/2016
Sample ID: CCV2						
Nitrate+Nitrite	mg/L	13.10	13.20	99	90-110	03/14/2016

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Initial and Continuing Calibration Verification

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80542

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Hexavalent Chromium	mg/L	0.497	0.5	99.4	90-110	03/14/2016
Sample ID: CCV1						
Hexavalent Chromium	mg/L	0.503	0.5	101	90-110	03/14/2016
Sample ID: CCV2						
Hexavalent Chromium	mg/L	0.506	0.5	101	90-110	03/14/2016

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Initial and Continuing Calibration Verification

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80609

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**CCV1**						
TKN		mg/L	4.86	5.00	97	80-120	03/18/2016
Sample ID:	**ICV1**						
TKN		mg/L	4.86	5.00	97	80-120	03/18/2016
Sample ID:	**CCV2**						
TKN		mg/L	4.88	5.00	98	80-120	03/18/2016

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Initial and Continuing Calibration Verification

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80611

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**CCV1**						
Phenolics		mg/L	0.93	1.00	93.0	90-110	03/18/2016
Sample ID:	**ICV1**						
Phenolics		mg/L	0.93	1.00	93.0	90-110	03/18/2016
Sample ID:	**CCV2**						
Phenolics		mg/L	0.91	1.00	91.0	90-110	03/18/2016

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Initial and Continuing Calibration Verification

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80611

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80534A

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: ICB1						
Nitrate+Nitrite	mg/L	< 0.250	+/-0.250	0.250	0.250	02/29/2016
Sample ID: CCB1						
Nitrate+Nitrite	mg/L	< 0.250	+/-0.250	0.250	0.250	03/14/2016
Sample ID: CCB2						
Nitrate+Nitrite	mg/L	< 0.250	+/-0.250	0.250	0.250	03/14/2016

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80542

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: ICB						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/14/2016
Sample ID: CCB1						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/14/2016
Sample ID: CCB2						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/14/2016

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80609

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: CCB1						
TKN	mg/L	< 0.500	+/-0.500	0.096	0.500	03/18/2016
Sample ID: ICB1						
TKN	mg/L	< 0.500	+/-0.500	0.096	0.500	03/18/2016
Sample ID: CCB2						
TKN	mg/L	< 0.500	+/-0.500	0.096	0.500	03/18/2016

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Initial and Continuing Calibration Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition **RunNo.:** LB80611

Analyte		Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID:	CCB1						
Phenolics		mg/L	< 0.050	+/-0.050	0.002	0.050	03/18/2016
Sample ID:	ICB1						
Phenolics		mg/L	< 0.050	+/-0.050	0.002	0.050	03/18/2016
Sample ID:	CCB2						
Phenolics		mg/L	< 0.050	+/-0.050	0.002	0.050	03/18/2016

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Initial and Continuing Calibration Blank Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**RunNo.:**	LB80611

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date

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Preparation Blank Summary

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition

Analyte	Units	Result	Acceptance Limits	MDL	RDL	Analysis Date
Sample ID: LB80534BLW						
Nitrate+Nitrite	mg/L	< 0.250	+/-0.250	0.250	0.250	03/14/2016
Sample ID: LB80536BL						
CBOD5	mg/L	< 2	+/-2	2	2	03/14/2016
Sample ID: LB80539BL						
TS	mg/L	< 10	+/-10	10	10	03/15/2016
Sample ID: lb80542BL						
Hexavalent Chromium	mg/L	< 0.01	+/-0.01	0.002	0.01	03/14/2016
Sample ID: LB80575BL						
TSS	mg/L	< 4	+/-4	4	4	03/17/2016
Sample ID: LB80593BL						
Non-Polar Material	mg/L	< 5.0	+/-5.0	0.679	5.0	03/18/2016
Sample ID: LB80627BLW						
Chloride	mg/L	< 5.00	+/-5.00	0.40	5.00	03/21/2016
Sample ID: PB88970BLW						
TKN	mg/L	< 0.500	+/-0.500	0.096	0.500	03/18/2016
Sample ID: PB88979BLW						
Phenolics	mg/L	< 0.500	+/-0.500	0.020	0.500	03/18/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2MS
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	0.686		0.002	J	1.0	2	68.4		03/14/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2MSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/L	90-111	0.702		0.002	J	1.0	2	70.0		03/14/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2S
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Nitrate+Nitrite	mg/L	80-120	12.40		0.250	U	13.20	1	94		03/14/2016
Chloride	mg/L	90-110	182		91.0		100	1	91.0		03/21/2016
TKN	mg/L	75-125	4.300		0.223	J	5.00	1	82		03/18/2016
Phenolics	mg/L	75-125	0.927		0.002	U	1.00	1	93		03/18/2016

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Matrix Spike Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2SD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Chloride	mg/L	90-110	180		91.0		100	1	89.0		03/21/2016
TKN	mg/L	75-125	4.360		0.223	J	5.00	1	83		03/18/2016
Phenolics	mg/L	75-125	0.927		0.002	U	1.00	1	93		03/18/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2D
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Flashpoint	o F	+/-20	>212		>212		1	0		03/14/2016
Nitrate+Nitrite	mg/L	+/-20	0.250	U	0.25	U	1	0		03/14/2016
Chloride	mg/L	+/-20	91.0		92.0		1	1.1		03/21/2016
TKN	mg/L	+/-20	0.223	J	0.230	J	1	3.10		03/18/2016
Phenolics	mg/L	+/-20	0.002	U	0.002	U	1	0		03/18/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2DUP
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
CBOD5	mg/L	+/-20	2	U	2	U	1	0		03/14/2016
TS	mg/L	+/-5	612		615		1	0.49		03/15/2016
Hexavalent Chromium	mg/L	+/-20	0.002	J	0.002	J	1	0		03/14/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2MSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/L	+/-20	0.686		0.702		2	2.31		03/14/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1782-01
Client ID: TW-2SD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
Chloride	mg/L	+/-20	182		180		1	1.1		03/21/2016
TKN	mg/L	+/-20	4.300		4.360		1	1.4		03/18/2016
Phenolics	mg/L	+/-20	0.927		0.927		1	0		03/18/2016

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Duplicate Sample Summary

Client: AKRF Engineering, P.C.
SDG No.: H1782
Project: NYCSCA - Proposed PS19X Addition
Sample ID: H1813-02
Client ID: STORMDRAIN-2DUP
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifie	Duplicate Result	Conc. Qualifie	Dilution Factor	RPD/ AD	Qual	Analysis Date
TSS	mg/L	+/-5	4	U	4	U	1	0		03/17/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80534A

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80534BSW								
Nitrate+Nitrite	mg/L	13.80	13.30		96	1	90-110	03/14/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80536

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80536BS								
CBOD5	mg/L	200	215.5		108	1	84.6-115.4	03/14/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80536

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80536BSD1								
CBOD5	mg/L	200	204.5		102	1	84.6-115.4	03/14/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80536

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80536BSD2								
CBOD5	mg/L	200	200		100	1	84.6-115.4	03/14/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80542

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID lb80542BS								
Hexavalent Chromium	mg/L	0.5	0.509		102	1	90-111	03/14/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80575

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80575BS								
TSS	mg/L	550	542		98.5	1	90-110	03/17/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80593

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80593BS								
Non-Polar Material	mg/L	20.0	18.9		94.5	1	78-114	03/18/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80593

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80593BSD								
Non-Polar Material	mg/L	20.0	19.1		95.5	1	78-114	03/18/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80627

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB80627BSW								
Chloride	mg/L	100.00	106.00		106.0	1	90-110	03/21/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80609

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB88970BSW								
TKN	mg/L	5.00	4.83		97	1	80-120	03/18/2016

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Laboratory Control Sample Summary

Client:	AKRF Engineering, P.C.	**SDG No.:**	H1782
Project:	NYCSCA - Proposed PS19X Addition	**Run No.:**	LB80611

Analyte		Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	**PB88979BSW**								
Phenolics		**mg/L**	**1.00**	**0.92**		**92.0**	**1**	**80-120**	**03/18/2016**

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Method Detection Limits

Client: AKRF Engineering, P.C. **SDG No.:** H1782

Project: NYCSCA - Proposed PS19X Addition

Analyte	Units	MDL	RDL
Method: 1010A Flashpoint		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Flashpoint	o F	0.00	0.00
Method: 1664A Nonpolar Material		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Non-Polar Material	mg/L	0.679	5
Method: 300 Nitrate+Nitrite		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Nitrate+Nitrite	mg/L	0.250	0.250
Method: 420.1 Phenolics		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Phenolics	mg/L	0.002	0.050
Method: SM2540 D TSS		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
TSS	mg/L	4	4
Method: SM2540B TS		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
TS	mg/L	10	10
Method: SM3500-Cr-B		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Hexavalent Chromium	mg/L	0.002	0.01
Method: SM4500-Cl-C Chloride		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Chloride	mg/L	0.40	5.00
Method: SM4500-N Org B or C TKN		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
TKN	mg/L	0.096	0.500
Method: SM5210B BOD5		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
CBOD5	mg/L	2	2
Method: Total Nitrogen		**MDL Date:**	01/15/2006
Matrix Category: LIQUID			
Total Nitrogen	mg/L	0.750	0.750

SHIPPING DOCUMENTS

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CHEMTECH PROJECT NO.
QUOTE NO. H1782
COC Number 037468

10.1

CLIENT INFORMATION (REPORT TO BE SENT TO:)

COMPANY: AKRF
ADDRESS: 440 Park Ave South
CITY: NY STATE: NY ZIP: 10016
ATTENTION: Becky Kinal
PHONE: 914 922 2362 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: 19X
PROJECT NO.: 89030 LOCATION: BRONX NY
PROJECT MANAGER: Becky KINAL
e-mail: BKINAL@AKRF.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: SAME AS PO#:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *
HARD COPY: _____ DAYS *
EDD: _____ DAYS *
PREAPPROVED TAT: ☐ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ LEVEL 1: Results only ☐ Others _____
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☑ EDD Format: email

ANALYSIS

1 Nonpolar Material
2 Phenolics
3 SVOCs
4 PCB/Pesticides
5 CBOD5
6 VOCs
7 Metals
8 Mercury
9 TKN

NYC DEP Discharge

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
								C	C	E	E	E	A	B	B	C	— Specify Preservatives A–HCl B–HNO_3 C–H_2SO_4 D–NaOH E–ICE F–Other
1.	TW-2	GW			3/14/16	1515	12	X	X	X	X	X	X	X	X	X	Temp 14.5C pH 6.5
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	10:10 3-14-16 am	1.
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME: 12:15 3-14-16 pm	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments:

Cooler Temp. 5°
Ice in Cooler?: Yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☐ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☑ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☑ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

From: Elizabeth Matamoros <ematamoros@akrf.com>
Sent: Monday, March 14, 2016 5:04 PM
To: Snehal Mehta
Cc: Rebecca Kinal; Steven Kim
Subject: Re: 89030 Bottle Order

Yes, please proceed and narrate appropriately.

On Mon, Mar 14, 2016 at 5:03 PM, Snehal Mehta <Snehal@chemtech.net> wrote:

Elizabeth,

As per our discussion please confirm if lab can proceed with Hexavalent Chromium, Nitrate analysis and it can be analyze out of holding time. Lab will also mention it in case narrative.

Regards,

Snehal Mehta

Tel. 908 728 3149

Fax: 908-789-8514

CHEMTECH
284 Sheffield Street,
Mountainside, New Jersey 07092
Phone: (908) 789 8900
Fax: (908) 789 8922

ACCREDITED IN ACCORDANCE WITH nelac

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025

DoD ELAP

From: Elizabeth Matamoros [mailto:ematamoros@akrf.com]
Sent: Friday, March 11, 2016 2:32 PM
To: Snehal Mehta

Subject: Re: 89030 Bottle Order

Can you send your FedEx account info/address?

On Fri, Mar 11, 2016 at 2:30 PM, Snehal Mehta <Snehal@chemtech.net> wrote:

Here is the Packing slip for Soil, GW & NY Discharge Parameters.

Let us know if you have any questions. Please ship it overnight for early am delivery(check[x] no signature required)

Regards,

Snehal Mehta

Tel. 908 728 3149

Fax: 908-789-8514

From: Elizabeth Matamoros [mailto:ematamoros@akrf.com]
Sent: Friday, March 11, 2016 12:45 PM
To: snehal@chemtech.net
Subject: Re: 89030 Bottle Order

Hi Snehal-

Please send me the packing slip when you get a chance. Also let me know if it would be easier for you if we FedEx the coolers tomorrow after sampling for first thing Monday delivery.

I'm at my desk 914-922-2397

Thanks,

Elizabeth

On Wed, Mar 9, 2016 at 12:34 PM, Elizabeth Matamoros <ematamoros@akrf.com> wrote:

Hi Snehal,

Thanks for taking my call, I need the following glassware for soil and GW sampling for an SCA project:

SOIL- Ten (10) samples for; TCL+CP51 VOCs +TICs by 8260

TCL+CP51 SVOCs +TICs by 8270

PCBs by 8082

TAL Metals (6000/7000)

Additionally, five (5) samples will be analyzed for Cyanide by 9012,

Hexavalent Chromium by 7196

TPH DRO/GRO by 8015-modified.

Two (2) Samples for TCLP Lead

GW- Five (5) samples for; TCL+CP51 VOCs by 8260

TCL+CP51 SVOCs by 8270

PCBs by 8082

TAL Metals (**total and dissolved**)

Additionally, I need **one (1)** Groundwater sample set for **NYCDEP's Sewer Discharge Parameters**. Also, please add **two trip blanks** for analysis of TCL+CP51 VOCs.

Project Name: Proposed PS19X Addition located at 4318 Katonah Avenue located in Bronx, NY.

Please have the glassware **delivered by this Friday March 11** to the NYC office. Also, please schedule a **pick up from the NYC office for early Monday morning,** as the sampling will occur over the weekend.

Please call (914-922-2397) or email me if you have any questions.

Thanks,

Elizabeth

--

Elizabeth Matamoros

Environmental Scientist/Planner

.....

AKRF, INC.
Environmental, Planning, and Engineering Consultants
34 South Broadway, Suite 401 | White Plains, NY 10601
P) 914.922.2397 C) 347.328.3567 F) 914.949.7559

www.akrf.com

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Elizabeth Matamoros

Environmental Scientist/Planner

.....

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CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	EP-W-14-030
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Florida	E87935
Louisiana	05035
Maine	2012025
Maryland	296
Massachusetts	M-NJ503
New Hampshire	255413
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-13-00380
Texas	T104704488-13-5

CHEMTECH

LOGIN REPORT/SAMPLE TRANSFER

10.4

Order ID:	H1782 AKRF02	**Order Date:**	3/14/2016	**Project Mgr:**	SNEHAL
Client Name:	AKRF Engineering, P.C.	**Project Name:**	NYCSCA - Proposed PS19X Ad	**Report Type:**	Results+QC
Client Contact:	Rebecca Kinal, PE	**Rec DateTime**	3/14/2016 12:15:00 PM	**EDD:**	EXCEL NOCLEANUP
Invoice Name:	AKRF Engineering, P.C.	**Purchase Order:**		**Hard Copy Date:**	
Invoice Contact	Rebecca Kinal, PE	**Login Tech:**	harkishan	**Date Signoff:**	3/15/2016 10:45:44 AM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	QTY	TEST	TEST GROUP	METHOD	COMMENT	FAX DATE	Due Dates
H1782-01	TW-2	Water	3/12/2016	15:15	14	VOCMS Group2		624	5 Bus.		

SAMPLE CONDITION RECORD

Are samples submitted with a chain of custody?	Yes
Are the number of samples the same as stated on the chain of custody?	Yes
Are bottle caps tight and securely in place?	Yes
Were all containers intact when received?	Yes
Were samples submitted in an ice chest?	Yes
Were samples received cold?	Yes
Were samples within the holding time for the requested test(s)?	Yes
Is the volume of sample submitted sufficient for the requested test(s)?	Yes
Are all samples for volatile organic analyses free of headspace?	Yes

Relinguished By:

Date / Time: 3/15/16 1100

Received By:

Date / Time:

Storage Area: VOA Refridgerator Room

ORDER COMMENT

No PO required as per Sales---- VOCMS Group1 = TCL VOCs + CP-51. SVOCMS Group1 = TCL SVOC BNA + CP-51. VOCMS Group2, SVOCMS Group2, Metals Group2, and PCB Group2 are for NYCDEP Discharge Parameters.--

ANALYTICAL REPORT

Lab Number:	L1607277
Client:	AKRF, Inc. 440 Park Avenue South 7th Floor New York, NY 10016
ATTN:	Becky Kinal
Phone:	(212) 696-0670
Project Name:	19X
Project Number:	89030
Report Date:	03/23/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1607277-01	SV-1	SOIL_VAPOR	BRONX-NY	03/12/16 14:29	03/14/16
L1607277-02	SV-2	SOIL_VAPOR	BRONX-NY	03/12/16 14:27	03/14/16
L1607277-03	SV-3	SOIL_VAPOR	BRONX-NY	03/12/16 14:15	03/14/16
L1607277-04	SV-4	SOIL_VAPOR	BRONX-NY	03/12/16 14:35	03/14/16
L1607277-05	SV-5	SOIL_VAPOR	BRONX-NY	03/12/16 14:22	03/14/16
L1607277-06	UNUSED CAN #1867	SOIL_VAPOR	BRONX-NY		03/14/16

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 11, 2016. The canister certification results are provided as an addendum.

Sample L1607277-01: The sample was diluted and re-analyzed to quantify the results within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compounds that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compounds that exceeded the calibration range.

Samples L1607277-02, -03, -05 and WG876391-5 Duplicate: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative

Date: 03/23/16

AIR

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-01
Client ID: SV-1
Sample Location: BRONX-NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/21/16 21:05
Analyst: MB

Date Collected: 03/12/16 14:29
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Chloromethane	2.58	0.200	--	5.33	0.413	--		1
Vinyl chloride	0.061	0.020	--	0.156	0.051	--		1
Chloroethane	0.067	0.020	--	0.177	0.053	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	4.00	0.100	--	12.8	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Toluene	35.1	0.050	--	132	0.188	--		1
Tetrachloroethene	0.235	0.020	--	1.59	0.136	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	40.8	0.020	--	177	0.087	--		1
p/m-Xylene	152	0.040	--	660	0.174	--	E	1
o-Xylene	68.1	0.020	--	296	0.087	--	E	1
1,3,5-Trimethylbenzene	0.589	0.020	--	2.90	0.098	--		1
1,2,4-Trimethylbenzene	1.85	0.020	--	9.09	0.098	--		1
1,3-Dichlorobenzene	0.022	0.020	--	0.132	0.120	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-01
Client ID: SV-1
Sample Location: BRONX-NY

Date Collected: 03/12/16 14:29
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
Naphthalene	0.127	0.050	--	0.666	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	110		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID:	L1607277-01	D	Date Collected:	03/12/16 14:29
Client ID:	SV-1		Date Received:	03/14/16
Sample Location:	BRONX-NY		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Anaytical Method:	48,TO-15-SIM			
Analytical Date:	03/22/16 07:17			
Analyst:	MB			

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p/m-Xylene	178	0.080	--	773	0.347	--		2
o-Xylene	78.7	0.040	--	342	0.174	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	110		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	112		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-02 D
Client ID: SV-2
Sample Location: BRONX-NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/22/16 22:10
Analyst: MB

Date Collected: 03/12/16 14:27
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Chloromethane	7.43	0.400	--	15.3	0.826	--		2
Vinyl chloride	0.290	0.040	--	0.741	0.102	--		2
Chloroethane	0.264	0.040	--	0.697	0.106	--		2
1,1-Dichloroethene	ND	0.040	--	ND	0.159	--		2
Methylene chloride	ND	1.00	--	ND	3.47	--		2
trans-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,1-Dichloroethane	ND	0.040	--	ND	0.162	--		2
Methyl tert butyl ether	ND	0.400	--	ND	1.44	--		2
cis-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,2-Dichloroethane	ND	0.040	--	ND	0.162	--		2
1,1,1-Trichloroethane	ND	0.040	--	ND	0.218	--		2
Benzene	14.3	0.200	--	45.7	0.639	--		2
Carbon tetrachloride	ND	0.040	--	ND	0.252	--		2
1,2-Dichloropropane	ND	0.040	--	ND	0.185	--		2
Trichloroethene	0.060	0.040	--	0.322	0.215	--		2
Toluene	54.0	0.100	--	203	0.377	--		2
Tetrachloroethene	0.858	0.040	--	5.82	0.271	--		2
Chlorobenzene	ND	0.040	--	ND	0.184	--		2
Ethylbenzene	24.2	0.040	--	105	0.174	--		2
p/m-Xylene	88.0	0.080	--	382	0.347	--		2
o-Xylene	28.8	0.040	--	125	0.174	--		2
1,3,5-Trimethylbenzene	0.644	0.040	--	3.17	0.197	--		2
1,2,4-Trimethylbenzene	2.17	0.040	--	10.7	0.197	--		2
1,3-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-02 D
Client ID: SV-2
Sample Location: BRONX-NY

Date Collected: 03/12/16 14:27
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2
Naphthalene	0.210	0.100	--	1.10	0.524	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	110		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-03 D
Client ID: SV-3
Sample Location: BRONX-NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/23/16 10:14
Analyst: MB

Date Collected: 03/12/16 14:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Chloromethane	27.0	0.400	--	55.8	0.826	--		2
Vinyl chloride	1.47	0.040	--	3.76	0.102	--		2
Chloroethane	1.25	0.040	--	3.30	0.106	--		2
1,1-Dichloroethene	ND	0.040	--	ND	0.159	--		2
Methylene chloride	ND	1.00	--	ND	3.47	--		2
trans-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,1-Dichloroethane	ND	0.040	--	ND	0.162	--		2
Methyl tert butyl ether	ND	0.400	--	ND	1.44	--		2
cis-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,2-Dichloroethane	ND	0.040	--	ND	0.162	--		2
1,1,1-Trichloroethane	ND	0.040	--	ND	0.218	--		2
Benzene	13.8	0.200	--	44.1	0.639	--		2
Carbon tetrachloride	0.068	0.040	--	0.428	0.252	--		2
1,2-Dichloropropane	ND	0.040	--	ND	0.185	--		2
Trichloroethene	0.222	0.040	--	1.19	0.215	--		2
Toluene	66.1	0.100	--	249	0.377	--		2
Tetrachloroethene	0.480	0.040	--	3.25	0.271	--		2
Chlorobenzene	ND	0.040	--	ND	0.184	--		2
Ethylbenzene	38.8	0.040	--	169	0.174	--		2
p/m-Xylene	131	0.080	--	569	0.347	--		2
o-Xylene	46.6	0.040	--	202	0.174	--		2
1,3,5-Trimethylbenzene	0.938	0.040	--	4.61	0.197	--		2
1,2,4-Trimethylbenzene	3.17	0.040	--	15.6	0.197	--		2
1,3-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-03 D
Client ID: SV-3
Sample Location: BRONX-NY

Date Collected: 03/12/16 14:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2
Naphthalene	0.100	0.100	--	0.524	0.524	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	100		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	108		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-04
Client ID: SV-4
Sample Location: BRONX-NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/23/16 10:48
Analyst: MB

Date Collected: 03/12/16 14:35
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Chloromethane	0.282	0.200	--	0.582	0.413	--		1
Vinyl chloride	0.047	0.020	--	0.120	0.051	--		1
Chloroethane	0.047	0.020	--	0.124	0.053	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	1.23	0.100	--	3.93	0.319	--		1
Carbon tetrachloride	0.055	0.020	--	0.346	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Toluene	41.2	0.050	--	155	0.188	--		1
Tetrachloroethene	0.491	0.020	--	3.33	0.136	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	11.8	0.020	--	51.3	0.087	--		1
p/m-Xylene	42.6	0.040	--	185	0.174	--		1
o-Xylene	7.97	0.020	--	34.6	0.087	--		1
1,3,5-Trimethylbenzene	0.454	0.020	--	2.23	0.098	--		1
1,2,4-Trimethylbenzene	1.60	0.020	--	7.87	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-04
Client ID: SV-4
Sample Location: BRONX-NY

Date Collected: 03/12/16 14:35
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
Naphthalene	0.072	0.050	--	0.378	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	140		60-140
bromochloromethane	111		60-140
chlorobenzene-d5	136		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-05 D
Client ID: SV-5
Sample Location: BRONX-NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/23/16 13:09
Analyst: MB

Date Collected: 03/12/16 14:22
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Chloromethane	2.23	0.400	--	4.61	0.826	--		2
Vinyl chloride	0.110	0.040	--	0.281	0.102	--		2
Chloroethane	0.166	0.040	--	0.438	0.106	--		2
1,1-Dichloroethene	ND	0.040	--	ND	0.159	--		2
Methylene chloride	ND	1.00	--	ND	3.47	--		2
trans-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,1-Dichloroethane	ND	0.040	--	ND	0.162	--		2
Methyl tert butyl ether	ND	0.400	--	ND	1.44	--		2
cis-1,2-Dichloroethene	ND	0.040	--	ND	0.159	--		2
1,2-Dichloroethane	ND	0.040	--	ND	0.162	--		2
1,1,1-Trichloroethane	ND	0.040	--	ND	0.218	--		2
Benzene	7.40	0.200	--	23.6	0.639	--		2
Carbon tetrachloride	ND	0.040	--	ND	0.252	--		2
1,2-Dichloropropane	ND	0.040	--	ND	0.185	--		2
Trichloroethene	ND	0.040	--	ND	0.215	--		2
Toluene	51.9	0.100	--	196	0.377	--		2
Tetrachloroethene	0.444	0.040	--	3.01	0.271	--		2
Chlorobenzene	ND	0.040	--	ND	0.184	--		2
Ethylbenzene	12.2	0.040	--	53.0	0.174	--		2
p/m-Xylene	42.6	0.080	--	185	0.347	--		2
o-Xylene	7.56	0.040	--	32.8	0.174	--		2
1,3,5-Trimethylbenzene	0.414	0.040	--	2.04	0.197	--		2
1,2,4-Trimethylbenzene	1.51	0.040	--	7.42	0.197	--		2
1,3-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

SAMPLE RESULTS

Lab ID: L1607277-05 D
Client ID: SV-5
Sample Location: BRONX-NY

Date Collected: 03/12/16 14:22
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.040	--	ND	0.240	--		2
Naphthalene	0.180	0.100	--	0.944	0.524	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	94		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/21/16 16:17

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG875947-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/21/16 16:17

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG875947-4								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/21/16 16:17

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG875947-4								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/22/16 16:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 02-05 Batch: WG876391-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/22/16 16:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 02-05 Batch: WG876391-4								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/22/16 16:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 02-05 Batch: WG876391-4								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG875947-3								
Dichlorodifluoromethane	109		-		70-130	-		25
Chloromethane	98		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	113		-		70-130	-		25
Vinyl chloride	106		-		70-130	-		25
1,3-Butadiene	114		-		70-130	-		25
Bromomethane	114		-		70-130	-		25
Chloroethane	102		-		70-130	-		25
Acetone	109		-		70-130	-		25
Trichlorofluoromethane	126		-		70-130	-		25
Acrylonitrile	101		-		70-130	-		25
1,1-Dichloroethene	107		-		70-130	-		25
Methylene chloride	116		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	108		-		70-130	-		25
Halothane	109		-		70-130	-		25
trans-1,2-Dichloroethene	83		-		70-130	-		25
1,1-Dichloroethane	90		-		70-130	-		25
Methyl tert butyl ether	81		-		70-130	-		25
2-Butanone	85		-		70-130	-		25
cis-1,2-Dichloroethene	94		-		70-130	-		25
Chloroform	98		-		70-130	-		25
1,2-Dichloroethane	97		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG875947-3								
1,1,1-Trichloroethane	103		-		70-130	-		25
Benzene	83		-		70-130	-		25
Carbon tetrachloride	109		-		70-130	-		25
1,2-Dichloropropane	87		-		70-130	-		25
Bromodichloromethane	99		-		70-130	-		25
1,4-Dioxane	87		-		70-130	-		25
Trichloroethene	98		-		70-130	-		25
cis-1,3-Dichloropropene	93		-		70-130	-		25
4-Methyl-2-pentanone	97		-		70-130	-		25
trans-1,3-Dichloropropene	84		-		70-130	-		25
1,1,2-Trichloroethane	96		-		70-130	-		25
Toluene	87		-		70-130	-		25
Dibromochloromethane	111		-		70-130	-		25
1,2-Dibromoethane	102		-		70-130	-		25
Tetrachloroethene	111		-		70-130	-		25
1,1,1,2-Tetrachloroethane	100		-		70-130	-		25
Chlorobenzene	100		-		70-130	-		25
Ethylbenzene	91		-		70-130	-		25
p/m-Xylene	96		-		70-130	-		25
Bromoform	121		-		70-130	-		25
Styrene	98		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG875947-3								
1,1,2,2-Tetrachloroethane	100		-		70-130	-		25
o-Xylene	97		-		70-130	-		25
Isopropylbenzene	95		-		70-130	-		25
4-Ethyltoluene	98		-		70-130	-		25
1,3,5-Trimethylbenzene	98		-		70-130	-		25
1,2,4-Trimethylbenzene	104		-		70-130	-		25
1,3-Dichlorobenzene	120		-		70-130	-		25
1,4-Dichlorobenzene	113		-		70-130	-		25
sec-Butylbenzene	97		-		70-130	-		25
p-Isopropyltoluene	92		-		70-130	-		25
1,2-Dichlorobenzene	114		-		70-130	-		25
n-Butylbenzene	101		-		70-130	-		25
1,2,4-Trichlorobenzene	129		-		70-130	-		25
Naphthalene	116		-		70-130	-		25
1,2,3-Trichlorobenzene	124		-		70-130	-		25
Hexachlorobutadiene	**137**	Q	-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-05 Batch: WG876391-3								
Dichlorodifluoromethane	84		-		70-130	-		25
Chloromethane	101		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	119		-		70-130	-		25
Vinyl chloride	111		-		70-130	-		25
1,3-Butadiene	121		-		70-130	-		25
Bromomethane	121		-		70-130	-		25
Chloroethane	105		-		70-130	-		25
Acetone	112		-		70-130	-		25
Trichlorofluoromethane	**134**	Q	-		70-130	-		25
Acrylonitrile	104		-		70-130	-		25
1,1-Dichloroethene	113		-		70-130	-		25
Methylene chloride	121		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	114		-		70-130	-		25
Halothane	116		-		70-130	-		25
trans-1,2-Dichloroethene	88		-		70-130	-		25
1,1-Dichloroethane	94		-		70-130	-		25
Methyl tert butyl ether	86		-		70-130	-		25
2-Butanone	88		-		70-130	-		25
cis-1,2-Dichloroethene	98		-		70-130	-		25
Chloroform	103		-		70-130	-		25
1,2-Dichloroethane	102		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-05 Batch: WG876391-3								
1,1,1-Trichloroethane	103		-		70-130	-		25
Benzene	84		-		70-130	-		25
Carbon tetrachloride	110		-		70-130	-		25
1,2-Dichloropropane	86		-		70-130	-		25
Bromodichloromethane	98		-		70-130	-		25
1,4-Dioxane	87		-		70-130	-		25
Trichloroethene	100		-		70-130	-		25
cis-1,3-Dichloropropene	92		-		70-130	-		25
4-Methyl-2-pentanone	95		-		70-130	-		25
trans-1,3-Dichloropropene	83		-		70-130	-		25
1,1,2-Trichloroethane	96		-		70-130	-		25
Toluene	89		-		70-130	-		25
Dibromochloromethane	115		-		70-130	-		25
1,2-Dibromoethane	105		-		70-130	-		25
Tetrachloroethene	116		-		70-130	-		25
1,1,1,2-Tetrachloroethane	103		-		70-130	-		25
Chlorobenzene	104		-		70-130	-		25
Ethylbenzene	94		-		70-130	-		25
p/m-Xylene	98		-		70-130	-		25
Bromoform	125		-		70-130	-		25
Styrene	102		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-05 Batch: WG876391-3								
1,1,2,2-Tetrachloroethane	102		-		70-130	-		25
o-Xylene	100		-		70-130	-		25
Isopropylbenzene	98		-		70-130	-		25
4-Ethyltoluene	101		-		70-130	-		25
1,3,5-Trimethylbenzene	101		-		70-130	-		25
1,2,4-Trimethylbenzene	107		-		70-130	-		25
1,3-Dichlorobenzene	124		-		70-130	-		25
1,4-Dichlorobenzene	117		-		70-130	-		25
sec-Butylbenzene	100		-		70-130	-		25
p-Isopropyltoluene	96		-		70-130	-		25
1,2-Dichlorobenzene	119		-		70-130	-		25
n-Butylbenzene	104		-		70-130	-		25
1,2,4-Trichlorobenzene	**133**	Q	-		70-130	-		25
Naphthalene	119		-		70-130	-		25
1,2,3-Trichlorobenzene	129		-		70-130	-		25
Hexachlorobutadiene	**143**	Q	-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG875947-5 QC Sample: L1607305-01 Client ID: DUP Sample						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.086	0.085	ppbV	1		25
Trichloroethene	ND	ND	ppbV	NC		25
Tetrachloroethene	0.052	0.053	ppbV	2		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-05 QC Batch ID: WG876391-5 QC Sample: L1607277-02 Client ID: SV-2					
Chloromethane	7.43	8.21	ppbV	10	25
Vinyl chloride	0.290	0.326	ppbV	12	25
Chloroethane	0.264	0.286	ppbV	8	25
1,1-Dichloroethene	ND	ND	ppbV	NC	25
Methylene chloride	ND	ND	ppbV	NC	25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC	25
1,1-Dichloroethane	ND	ND	ppbV	NC	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
1,1,1-Trichloroethane	ND	ND	ppbV	NC	25
Benzene	14.3	14.9	ppbV	4	25
Carbon tetrachloride	ND	ND	ppbV	NC	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
Trichloroethene	0.060	0.064	ppbV	6	25
Toluene	54.0	55.7	ppbV	3	25
Tetrachloroethene	0.858	0.952	ppbV	10	25
Chlorobenzene	ND	ND	ppbV	NC	25
Ethylbenzene	24.2	25.0	ppbV	3	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 02-05 QC Batch ID: WG876391-5 QC Sample: L1607277-02 Client ID: SV-2					
p/m-Xylene	88.0	90.8	ppbV	3	25
o-Xylene	28.8	29.7	ppbV	3	25
1,3,5-Trimethylbenzene	0.644	0.658	ppbV	2	25
1,2,4-Trimethylbenzene	2.17	2.25	ppbV	4	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
Naphthalene	0.210	0.202	ppbV	4	25

Project Name: 19X

Project Number: 89030

Lab Number: L1607277

Report Date: 03/23/16

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1607277-01	SV-1	0228	#30 SV	03/11/16	218438		-	-	-	Pass	78	84	7
L1607277-01	SV-1	1528	6.0L Can	03/11/16	218438	L1606665-01	Pass	-29.6	-3.9	-	-	-	-
L1607277-02	SV-2	0448	#90 SV	03/11/16	218438		-	-	-	Pass	79	78	1
L1607277-02	SV-2	1981	6.0L Can	03/11/16	218438	L1606603-01	Pass	-29.5	-3.1	-	-	-	-
L1607277-03	SV-3	0193	#90 SV	03/11/16	218438		-	-	-	Pass	77	70	10
L1607277-03	SV-3	1583	6.0L Can	03/11/16	218438	L1606603-02	Pass	-29.6	-6.8	-	-	-	-
L1607277-04	SV-4	0066	#90 SV	03/11/16	218438		-	-	-	Pass	79	76	4
L1607277-04	SV-4	1858	6.0L Can	03/11/16	218438	L1606665-02	Pass	-29.5	-5.2	-	-	-	-
L1607277-05	SV-5	0156	#90 SV	03/11/16	218438		-	-	-	Pass	75	70	7
L1607277-05	SV-5	1706	6.0L Can	03/11/16	218438	L1606431-01	Pass	-29.6	-6.1	-	-	-	-
L1607277-06	UNUSED CAN #1867	0023	#90 SV	03/11/16	218438		-	-	-	Pass	80	86	7
L1607277-06	UNUSED CAN #1867	1867	6.0L Can	03/11/16	218438	L1606431-02	Pass	-29.6	-29.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606431-01	Date Collected:	03/07/16 16:00
Client ID:	CAN 1706 SHELF 41	Date Received:	03/08/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15		
Analytical Date:	03/08/16 09:42		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01
Client ID: CAN 1706 SHELF 41
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01
Client ID: CAN 1706 SHELF 41
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01
Client ID: CAN 1706 SHELF 41
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1606431

Project Number: CANISTER QC BAT **Report Date:** 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01 Date Collected: 03/07/16 16:00

Client ID: CAN 1706 SHELF 41 Date Received: 03/08/16

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	87		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606431-01	Date Collected:	03/07/16 16:00
Client ID:	CAN 1706 SHELF 41	Date Received:	03/08/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	03/08/16 09:42		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01
Client ID: CAN 1706 SHELF 41
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-01
Client ID: CAN 1706 SHELF 41
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/08/16 17:57
Analyst: RY

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1606431

Project Number: CANISTER QC BAT **Report Date:** 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02 Date Collected: 03/07/16 16:00

Client ID: CAN 1867 SHELF 42 Date Received: 03/08/16

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/08/16 17:57
Analyst: RY

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:

Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606431
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606431-02
Client ID: CAN 1867 SHELF 42
Sample Location:
Date Collected: 03/07/16 16:00
Date Received: 03/08/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/09/16 08:43
Analyst: RY

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1606603

Project Number: CANISTER QC BAT **Report Date:** 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01 Date Collected: 03/08/16 18:00

Client ID: CAN 1981 SHELF 43 Date Received: 03/09/16

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	96		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606603-01	Date Collected:	03/08/16 18:00
Client ID:	CAN 1981 SHELF 43	Date Received:	03/09/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	03/09/16 08:43		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-01
Client ID: CAN 1981 SHELF 43
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	97		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	97		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606603-02	Date Collected:	03/08/16 18:00
Client ID:	CAN 1583 SHELF 48	Date Received:	03/09/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15		
Analytical Date:	03/09/16 09:17		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:
Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	94		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606603-02	Date Collected:	03/08/16 18:00
Client ID:	CAN 1583 SHELF 48	Date Received:	03/09/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	03/09/16 09:17		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606603
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606603-02
Client ID: CAN 1583 SHELF 48
Sample Location:

Date Collected: 03/08/16 18:00
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/09/16 16:39
Analyst: RY

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	82		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606665-01	Date Collected:	03/09/16 08:30
Client ID:	CAN 1528 SHELF 46	Date Received:	03/09/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	03/09/16 16:39		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-01
Client ID: CAN 1528 SHELF 46
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/09/16 17:11
Analyst: RY

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:
Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	81		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID:	L1606665-02	Date Collected:	03/09/16 08:30
Client ID:	CAN 1858 SHELF 47	Date Received:	03/09/16
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	03/09/16 17:11		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1606665
Report Date: 03/23/16

Air Canister Certification Results

Lab ID: L1606665-02
Client ID: CAN 1858 SHELF 47
Sample Location:

Date Collected: 03/09/16 08:30
Date Received: 03/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	85		60-140

Project Name: 19X
Project Number: 89030

Lab Number: L1607277
Report Date: 03/23/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information **Custody Seal**

Cooler

N/A Present/Intact

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1607277-01A	Canister - 6 Liter	N/A	N/A	N/A	Y	Absent	TO15-SIM(30)
L1607277-02A	Canister - 6 Liter	N/A	N/A	N/A	Y	Absent	TO15-SIM(30)
L1607277-03A	Canister - 6 Liter	N/A	N/A	N/A	Y	Absent	TO15-SIM(30)
L1607277-04A	Canister - 6 Liter	N/A	N/A	N/A	Y	Absent	TO15-SIM(30)
L1607277-05A	Canister - 6 Liter	N/A	N/A	N/A	Y	Absent	TO15-SIM(30)
L1607277-06A	Canister - 6 Liter	N/A	N/A		Y	Absent	CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name: 19X **Lab Number:** L1607277

Project Number: 89030 **Report Date:** 03/23/16

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: Data Usability Report

Project Name: 19X **Lab Number:** L1607277

Project Number: 89030 **Report Date:** 03/23/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: 19X
Project Number: 89030
Lab Number: L1607277
Report Date: 03/23/16

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/15/16

ALPHA Job #: L1607277

Client Information

Client: AKRF : Becky KINAL
Address: 440 Park Avenue South
NY NY 10016
Phone: 914 922 2362
Fax:
Email: RKINAL@AKRF.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 19X
Project Location: BRONX NY
Project #: 89030
Project Manager: BECKY KINAL
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☑ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:
SCA

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
07277.01	SV-1	3/12/16	1330	1429	-30	-4.16	SV	EM	6L	1528	0228	X					
.02	SV-2	3/12/16	1323	1427	-29.25	-2.94	SV	EM	6L	1981	0448	X					
.03	SV-3	3/12/16	1312	1415	-29.86	-7.03	SV	EM	6L	1583	0193	X					
.04	SV-4	3/12/16	1335	1435	-29.93	-5.90	SV	EM	6L	1858	0066	X					
.05	SV-5	3/12/16	1320	1422	-30	-7.62	SV	EM	6L	1706	0156	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
[illegible]	3/14/15 1025	[illegible] AA2	3/14/16 1025
[illegible] AA2	3/14/16 2300	[illegible]	3-14-16 2300
Al Williams	3-15-16 4:10	[illegible]	3/15/16 ~~03:25~~ 04:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

Appendix E
Remediation Cost Estimate

APPENDIX E
RECOMMENDED REMEDIATION AND COST ESTIMATES
Proposed School Addition at P.S. 19X, 4318 Katonah Avenue, Bronx, NY

As a safegaurd to prevent potential soil vapor intrusion, the proposed school building addition should be constructed with a vapor barrier.

Remediation Measure #1: Vapor Barrier Installation

Assumptions:

-Vapor barrier installed on basement walls and under entire basement slab
-Overall addition footprint area of 15,000 square feet
-Total subsurface wall face area of 5,000 square feet
-Unit rate based upon use of Grace Preprufe 300R or Liquid Boot

Activity	Quantity	Units	Unit Rate	Cost
Install Vapor Barrier	20,000	SF	$ 5.50	$ 110,000.00
			Engineering Design (10%)	$ 11,000.00
			Subtotal Project Costs	**$ 121,000.00**
			Contingency (15%)	$ 18,150.00
			Total Cost (rounded):	**$ 139,200.00**

Total Engineering Controls and Remediation Cost Estimate

	Cost
1 - Vapor Barrier Installation	**$ 139,200.00**
Approximate Total Cost	**$ 139,200.00**

Notes:

Cost estimates **do not** include the following:
- Dewatering treatment
- Shoring or sheeting
- Stormwater or other permitting
- Inflationary escalator - prices based upon estimated costs as of August 2014
- Excavation and disposal of non-hazardous urban fill
- Import of environmentally clean fill
-Regulatory interaction or reporting