

APPENDIX B

JANUARY 2015 GROUNDWATER SAMPLING LABORATORY ANALYTICAL REPORTS

January 22, 2015

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92232495

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 08, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised 1/22/15 to update dilution factor for MW-6.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92232495001	TB-01	Water	01/07/15 00:00	01/08/15 12:11
92232495002	FD-01	Water	01/07/15 00:00	01/08/15 12:11
92232495003	MW-1	Water	01/07/15 15:35	01/08/15 12:11
92232495004	MW-4	Water	01/07/15 15:40	01/08/15 12:11
92232495005	MW-4A	Water	01/07/15 16:45	01/08/15 12:11
92232495006	MW-6	Water	01/07/15 17:20	01/08/15 12:11
92232495007	EB-01	Water	01/08/15 10:30	01/08/15 12:11

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SAMPLE ANALYTE COUNT

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92232495001	TB-01	EPA 8260	CAH	55	PASI-C
92232495002	FD-01	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232495003	MW-1	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232495004	MW-4	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232495005	MW-4A	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232495006	MW-6	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232495007	EB-01	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C

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SUMMARY OF DETECTION

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92232495002	FD-01					
EPA 8260	Benzene	13.2	ug/L	10.0	01/10/15 12:43	
EPA 8260	Chloroform	5.6J	ug/L	10.0	01/10/15 12:43	
EPA 8260	1,1-Dichloroethene	17.0	ug/L	10.0	01/10/15 12:43	
EPA 8260	cis-1,2-Dichloroethene	2.5J	ug/L	10.0	01/10/15 12:43	
EPA 8260	Methylcyclohexane	211	ug/L	100	01/10/15 12:43	
EPA 8260	Tetrachloroethene	5.5J	ug/L	10.0	01/10/15 12:43	
EPA 8260	Toluene	3.4J	ug/L	10.0	01/10/15 12:43	
EPA 8260	1,1,2-Trichloroethane	3.2J	ug/L	10.0	01/10/15 12:43	
EPA 8260	Trichloroethene	17900	ug/L	125	01/14/15 04:19	
EPA 8260	o-Xylene	3.1J	ug/L	10.0	01/10/15 12:43	
92232495004	MW-4					
EPA 8260	Chloroform	0.20J	ug/L	1.0	01/13/15 04:15	
EPA 8260	1,1-Dichloroethane	0.39J	ug/L	1.0	01/13/15 04:15	
EPA 8260	cis-1,2-Dichloroethene	7.0	ug/L	1.0	01/13/15 04:15	
EPA 8260	Tetrachloroethene	0.68J	ug/L	1.0	01/13/15 04:15	
EPA 8260	1,1,1-Trichloroethane	4.1	ug/L	1.0	01/13/15 04:15	
EPA 8260	Trichloroethene	111	ug/L	1.0	01/13/15 04:15	
92232495006	MW-6					
EPA 8260	Chloroform	5.7J	ug/L	10.0	01/10/15 13:51	
EPA 8260	1,1-Dichloroethene	16.9	ug/L	10.0	01/10/15 13:51	
EPA 8260	cis-1,2-Dichloroethene	2.1J	ug/L	10.0	01/10/15 13:51	
EPA 8260	Methylcyclohexane	198	ug/L	100	01/10/15 13:51	
EPA 8260	Tetrachloroethene	4.8J	ug/L	10.0	01/10/15 13:51	
EPA 8260	1,1,2-Trichloroethane	3.3J	ug/L	10.0	01/10/15 13:51	
EPA 8260	Trichloroethene	18700	ug/L	125	01/14/15 04:36	
EPA 8260	1,1,2-Trichlorotrifluoroethane	4.7J	ug/L	10.0	01/10/15 13:51	
EPA 8260	m&p-Xylene	15.8J	ug/L	20.0	01/10/15 13:51	
EPA 8260	o-Xylene	12.2	ug/L	10.0	01/10/15 13:51	
92232495007	EB-01					
EPA 8270	Diethylphthalate	1.9J	ug/L	10.0	01/13/15 18:55	
EPA 8260	Acetone	27.8	ug/L	25.0	01/10/15 11:18	
EPA 8260	2-Butanone (MEK)	3.8J	ug/L	5.0	01/10/15 11:18	
EPA 8260	Trichloroethene	0.92J	ug/L	1.0	01/10/15 11:18	

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 22, 2015

General Information:

6 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/32194

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1368056)
 - Benzaldehyde

QC Batch: OEXT/32253

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1369334)
 - 2-Chlorophenol
 - 2-Methylphenol(o-Cresol)
 - Benzaldehyde
- LCSD (Lab ID: 1369335)
 - Benzaldehyde

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 22, 2015

QC Batch: OEXT/32194

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232495007

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1368057)
 - Benzaldehyde
- MSD (Lab ID: 1368058)
 - Benzaldehyde

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1368057)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - 2,3,4,6-Tetrachlorophenol
 - Acetophenone
 - Biphenyl (Diphenyl)
 - Caprolactam
 - Isophorone
- MSD (Lab ID: 1368058)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - 2,3,4,6-Tetrachlorophenol
 - Acetophenone
 - Biphenyl (Diphenyl)
 - Caprolactam
 - Isophorone

QC Batch: OEXT/32253

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232749005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1369939)
 - Benzaldehyde
- MSD (Lab ID: 1369940)
 - Benzaldehyde

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1369939)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - Acetophenone
 - Biphenyl (Diphenyl)
 - Caprolactam
 - Isophorone
- MSD (Lab ID: 1369940)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - 3,3'-Dichlorobenzidine
 - Acetophenone

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 22, 2015

QC Batch: OEXT/32253

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232749005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Biphenyl (Diphenyl)
- Caprolactam
- Carbazole
- Isophorone

R1: RPD value was outside control limits.

- MSD (Lab ID: 1369940)
 - 4-Nitroaniline
 - 4-Nitrophenol
 - Atrazine
 - Benzo(g,h,i)perylene
 - Carbazole
 - Fluoranthene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 22, 2015

General Information:

7 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/29967

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1368485)
- 1,4-Dioxane (p-Dioxane)

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1368485)
- 1,1,2-Trichlorotrifluoroethane

QC Batch: MSV/29968

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1368495)
- 1,4-Dioxane (p-Dioxane)

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1368495)
- 1,1,2-Trichlorotrifluoroethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 22, 2015

QC Batch: MSV/29959

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232090001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1367606)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,4-Dioxane (p-Dioxane)
 - 2-Hexanone
 - Bromomethane
 - Styrene

QC Batch: MSV/29967

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232720011

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1368486)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,4-Dioxane (p-Dioxane)
 - 2-Hexanone
 - Acetone
 - Bromomethane
 - Carbon tetrachloride
- MSD (Lab ID: 1368487)
 - 1,1,2-Trichlorotrifluoroethane
 - Bromomethane

R1: RPD value was outside control limits.

- MSD (Lab ID: 1368487)
 - 1,4-Dioxane (p-Dioxane)
 - 2-Butanone (MEK)
 - 2-Hexanone
 - Acetone

QC Batch: MSV/29968

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232792012

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1368496)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,4-Dioxane (p-Dioxane)

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 22, 2015

Analyte Comments:

QC Batch: MSV/29959

- MS (Lab ID: 1367606)
 - cis-1,2-Dichloroethene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: TB-01		Lab ID: 92232495001		Collected: 01/07/15 00:00		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/10/15 11:01	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/10/15 11:01	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/10/15 11:01	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/10/15 11:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/10/15 11:01	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/10/15 11:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/10/15 11:01	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/10/15 11:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/10/15 11:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/10/15 11:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/10/15 11:01	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		01/10/15 11:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/10/15 11:01	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/10/15 11:01	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/10/15 11:01	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/10/15 11:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/10/15 11:01	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/10/15 11:01	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/10/15 11:01	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/10/15 11:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/10/15 11:01	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/10/15 11:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/10/15 11:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/10/15 11:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/10/15 11:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/10/15 11:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/10/15 11:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/10/15 11:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/10/15 11:01	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/10/15 11:01	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/10/15 11:01	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/10/15 11:01	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/10/15 11:01	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/10/15 11:01	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/10/15 11:01	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/10/15 11:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/10/15 11:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/10/15 11:01	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/10/15 11:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/10/15 11:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/10/15 11:01	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/10/15 11:01	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/10/15 11:01	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/10/15 11:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/10/15 11:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/10/15 11:01	79-00-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: TB-01		Lab ID: 92232495001		Collected: 01/07/15 00:00		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Trichloroethene	ND ug/L		1.0	0.47	1		01/10/15 11:01	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		01/10/15 11:01	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	0.19	1		01/10/15 11:01	76-13-1	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/10/15 11:01	75-01-4	
m&p-Xylene	ND ug/L		2.0	0.66	1		01/10/15 11:01	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		01/10/15 11:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/10/15 11:01	460-00-4	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		01/10/15 11:01	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/10/15 11:01	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: FD-01		Lab ID: 92232495002		Collected: 01/07/15 00:00		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 16:31	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/12/15 09:15	01/13/15 16:31	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/12/15 09:15	01/13/15 16:31	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 16:31	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/12/15 09:15	01/13/15 16:31	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/12/15 09:15	01/13/15 16:31	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 16:31	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/12/15 09:15	01/13/15 16:31	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/12/15 09:15	01/13/15 16:31	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/12/15 09:15	01/13/15 16:31	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 16:31	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/12/15 09:15	01/13/15 16:31	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/12/15 09:15	01/13/15 16:31	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 16:31	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 16:31	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/12/15 09:15	01/13/15 16:31	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 16:31	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 16:31	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/12/15 09:15	01/13/15 16:31	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 16:31	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 16:31	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 16:31	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/12/15 09:15	01/13/15 16:31	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 16:31	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/12/15 09:15	01/13/15 16:31	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/12/15 09:15	01/13/15 16:31	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/12/15 09:15	01/13/15 16:31	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/12/15 09:15	01/13/15 16:31	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/12/15 09:15	01/13/15 16:31	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/12/15 09:15	01/13/15 16:31	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 16:31	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/12/15 09:15	01/13/15 16:31	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/12/15 09:15	01/13/15 16:31	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/12/15 09:15	01/13/15 16:31	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/12/15 09:15	01/13/15 16:31	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 16:31	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/12/15 09:15	01/13/15 16:31	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 16:31	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 16:31	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 16:31	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 16:31	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: FD-01		Lab ID: 92232495002		Collected: 01/07/15 00:00		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31		
Naphthalene	ND	ug/L	10.0	0.93	1	01/12/15 09:15	01/13/15 16:31	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/12/15 09:15	01/13/15 16:31	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/12/15 09:15	01/13/15 16:31	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 16:31	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/12/15 09:15	01/13/15 16:31	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/12/15 09:15	01/13/15 16:31	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 16:31	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/12/15 09:15	01/13/15 16:31	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/12/15 09:15	01/13/15 16:31	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/12/15 09:15	01/13/15 16:31	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 16:31	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 16:31	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 16:31	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 16:31	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/12/15 09:15	01/13/15 16:31	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 16:31	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 16:31	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	37 %		21-110		1	01/12/15 09:15	01/13/15 16:31	4165-60-0	
2-Fluorobiphenyl (S)	38 %		27-110		1	01/12/15 09:15	01/13/15 16:31	321-60-8	
Terphenyl-d14 (S)	63 %		31-107		1	01/12/15 09:15	01/13/15 16:31	1718-51-0	
Phenol-d6 (S)	13 %		10-110		1	01/12/15 09:15	01/13/15 16:31	13127-88-3	
2-Fluorophenol (S)	20 %		12-110		1	01/12/15 09:15	01/13/15 16:31	367-12-4	
2,4,6-Tribromophenol (S)	55 %		27-110		1	01/12/15 09:15	01/13/15 16:31	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	250	100	10		01/10/15 12:43	67-64-1	
Benzene	13.2	ug/L	10.0	2.5	10		01/10/15 12:43	71-43-2	
Bromochloromethane	ND	ug/L	10.0	1.7	10		01/10/15 12:43	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	1.8	10		01/10/15 12:43	75-27-4	
Bromoform	ND	ug/L	10.0	2.6	10		01/10/15 12:43	75-25-2	
Bromomethane	ND	ug/L	20.0	2.9	10		01/10/15 12:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	9.6	10		01/10/15 12:43	78-93-3	
Carbon disulfide	ND	ug/L	20.0	11.5	10		01/10/15 12:43	75-15-0	
Carbon tetrachloride	ND	ug/L	10.0	2.5	10		01/10/15 12:43	56-23-5	
Chlorobenzene	ND	ug/L	10.0	2.3	10		01/10/15 12:43	108-90-7	
Chloroethane	ND	ug/L	10.0	5.4	10		01/10/15 12:43	75-00-3	
Chloroform	5.6J	ug/L	10.0	1.4	10		01/10/15 12:43	67-66-3	
Chloromethane	ND	ug/L	10.0	1.1	10		01/10/15 12:43	74-87-3	
Cyclohexane	ND	ug/L	10.0	3.6	10		01/10/15 12:43	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	20.0	10		01/10/15 12:43	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	2.1	10		01/10/15 12:43	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: FD-01		Lab ID: 92232495002		Collected: 01/07/15 00:00		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	2.7	10		01/10/15 12:43	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	10.0	3.0	10		01/10/15 12:43	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	2.4	10		01/10/15 12:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	3.3	10		01/10/15 12:43	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	2.1	10		01/10/15 12:43	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	3.2	10		01/10/15 12:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	1.2	10		01/10/15 12:43	107-06-2	
1,1-Dichloroethene	17.0	ug/L	10.0	5.6	10		01/10/15 12:43	75-35-4	
cis-1,2-Dichloroethene	2.5J	ug/L	10.0	1.9	10		01/10/15 12:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	4.9	10		01/10/15 12:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	10.0	2.7	10		01/10/15 12:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	10.0	1.3	10		01/10/15 12:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	10.0	2.6	10		01/10/15 12:43	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	1500	784	10		01/10/15 12:43	123-91-1	
Ethylbenzene	ND	ug/L	10.0	3.0	10		01/10/15 12:43	100-41-4	
2-Hexanone	ND	ug/L	50.0	4.6	10		01/10/15 12:43	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	4.0	10		01/10/15 12:43	98-82-8	
Methyl acetate	ND	ug/L	100	8.2	10		01/10/15 12:43	79-20-9	
Methylcyclohexane	211	ug/L	100	18.7	10		01/10/15 12:43	108-87-2	
Methylene Chloride	ND	ug/L	20.0	9.7	10		01/10/15 12:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	3.3	10		01/10/15 12:43	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	2.1	10		01/10/15 12:43	1634-04-4	
Styrene	ND	ug/L	10.0	2.6	10		01/10/15 12:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	4.0	10		01/10/15 12:43	79-34-5	
Tetrachloroethene	5.5J	ug/L	10.0	4.6	10		01/10/15 12:43	127-18-4	
Toluene	3.4J	ug/L	10.0	2.6	10		01/10/15 12:43	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	10.0	3.3	10		01/10/15 12:43	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	3.5	10		01/10/15 12:43	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	4.8	10		01/10/15 12:43	71-55-6	
1,1,2-Trichloroethane	3.2J	ug/L	10.0	2.9	10		01/10/15 12:43	79-00-5	
Trichloroethene	17900	ug/L	125	58.8	125		01/14/15 04:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	2.0	10		01/10/15 12:43	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10.0	1.9	10		01/10/15 12:43	76-13-1	
Vinyl chloride	ND	ug/L	10.0	6.2	10		01/10/15 12:43	75-01-4	
m&p-Xylene	ND	ug/L	20.0	6.6	10		01/10/15 12:43	179601-23-1	
o-Xylene	3.1J	ug/L	10.0	2.3	10		01/10/15 12:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		10		01/10/15 12:43	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		10		01/10/15 12:43	17060-07-0	
Toluene-d8 (S)	98	%	70-130		10		01/10/15 12:43	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-1		Lab ID: 92232495003		Collected: 01/07/15 15:35		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 19:35	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/14/15 19:35	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/14/15 19:35	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/14/15 19:35	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/14/15 19:35	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/14/15 19:35	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/14/15 19:35	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/14/15 19:35	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/14/15 19:35	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/14/15 19:35	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 19:35	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/14/15 19:35	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/14/15 19:35	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 19:35	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 19:35	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/14/15 19:35	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/14/15 19:35	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/14/15 19:35	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/14/15 19:35	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 19:35	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/14/15 19:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/14/15 19:35	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/14/15 19:35	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/14/15 19:35	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/14/15 19:35	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/14/15 19:35	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/14/15 19:35	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/14/15 19:35	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/14/15 19:35	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/14/15 19:35	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/14/15 19:35	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/14/15 19:35	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/14/15 19:35	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/14/15 19:35	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/14/15 19:35	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/14/15 19:35	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/14/15 19:35	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 19:35	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/14/15 19:35	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 19:35	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/14/15 19:35	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-1		Lab ID: 92232495003		Collected: 01/07/15 15:35		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35		
Naphthalene	ND	ug/L	10.0	0.93	1	01/14/15 08:25	01/14/15 19:35	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/14/15 08:25	01/14/15 19:35	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/14/15 08:25	01/14/15 19:35	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/14/15 19:35	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/14/15 08:25	01/14/15 19:35	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/14/15 08:25	01/14/15 19:35	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/14/15 19:35	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/14/15 08:25	01/14/15 19:35	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/14/15 08:25	01/14/15 19:35	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/14/15 08:25	01/14/15 19:35	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 19:35	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 19:35	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/14/15 19:35	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/14/15 19:35	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/14/15 08:25	01/14/15 19:35	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 19:35	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/14/15 19:35	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	40 %		21-110		1	01/14/15 08:25	01/14/15 19:35	4165-60-0	
2-Fluorobiphenyl (S)	41 %		27-110		1	01/14/15 08:25	01/14/15 19:35	321-60-8	
Terphenyl-d14 (S)	51 %		31-107		1	01/14/15 08:25	01/14/15 19:35	1718-51-0	
Phenol-d6 (S)	14 %		10-110		1	01/14/15 08:25	01/14/15 19:35	13127-88-3	
2-Fluorophenol (S)	21 %		12-110		1	01/14/15 08:25	01/14/15 19:35	367-12-4	
2,4,6-Tribromophenol (S)	45 %		27-110		1	01/14/15 08:25	01/14/15 19:35	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/12/15 19:47	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/12/15 19:47	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/12/15 19:47	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/12/15 19:47	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/12/15 19:47	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/12/15 19:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/12/15 19:47	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/12/15 19:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/12/15 19:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/12/15 19:47	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/12/15 19:47	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		01/12/15 19:47	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/12/15 19:47	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/12/15 19:47	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/12/15 19:47	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/12/15 19:47	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-1		Lab ID: 92232495003		Collected: 01/07/15 15:35		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/12/15 19:47	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/12/15 19:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/12/15 19:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/12/15 19:47	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/12/15 19:47	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/12/15 19:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/12/15 19:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/12/15 19:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/12/15 19:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/12/15 19:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/12/15 19:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/12/15 19:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/12/15 19:47	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/12/15 19:47	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/12/15 19:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/12/15 19:47	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/12/15 19:47	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/12/15 19:47	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/12/15 19:47	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/12/15 19:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/12/15 19:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/12/15 19:47	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/12/15 19:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/12/15 19:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/12/15 19:47	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/12/15 19:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/12/15 19:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/12/15 19:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/12/15 19:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/12/15 19:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		01/12/15 19:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/12/15 19:47	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/12/15 19:47	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/12/15 19:47	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/12/15 19:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/12/15 19:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/12/15 19:47	460-00-4	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		01/12/15 19:47	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/12/15 19:47	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4		Lab ID: 92232495004		Collected: 01/07/15 15:40		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/14/15 11:54	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/12/15 09:15	01/14/15 11:54	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/12/15 09:15	01/14/15 11:54	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/14/15 11:54	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/12/15 09:15	01/14/15 11:54	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/12/15 09:15	01/14/15 11:54	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/14/15 11:54	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/12/15 09:15	01/14/15 11:54	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/12/15 09:15	01/14/15 11:54	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/12/15 09:15	01/14/15 11:54	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/14/15 11:54	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/12/15 09:15	01/14/15 11:54	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/12/15 09:15	01/14/15 11:54	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/14/15 11:54	105-60-2	IO
Carbazole	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/14/15 11:54	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/12/15 09:15	01/14/15 11:54	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/14/15 11:54	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/14/15 11:54	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/12/15 09:15	01/14/15 11:54	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/14/15 11:54	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/14/15 11:54	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/14/15 11:54	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/12/15 09:15	01/14/15 11:54	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/14/15 11:54	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/12/15 09:15	01/14/15 11:54	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/12/15 09:15	01/14/15 11:54	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/12/15 09:15	01/14/15 11:54	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/12/15 09:15	01/14/15 11:54	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/12/15 09:15	01/14/15 11:54	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/12/15 09:15	01/14/15 11:54	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/14/15 11:54	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/12/15 09:15	01/14/15 11:54	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/12/15 09:15	01/14/15 11:54	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/12/15 09:15	01/14/15 11:54	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/12/15 09:15	01/14/15 11:54	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/14/15 11:54	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/12/15 09:15	01/14/15 11:54	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/14/15 11:54	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/14/15 11:54	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/14/15 11:54	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/14/15 11:54	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4		Lab ID: 92232495004		Collected: 01/07/15 15:40		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54		
Naphthalene	ND	ug/L	10.0	0.93	1	01/12/15 09:15	01/14/15 11:54	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/12/15 09:15	01/14/15 11:54	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/12/15 09:15	01/14/15 11:54	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/14/15 11:54	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/12/15 09:15	01/14/15 11:54	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/12/15 09:15	01/14/15 11:54	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/14/15 11:54	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/12/15 09:15	01/14/15 11:54	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/12/15 09:15	01/14/15 11:54	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/12/15 09:15	01/14/15 11:54	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/14/15 11:54	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/14/15 11:54	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/14/15 11:54	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/14/15 11:54	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/12/15 09:15	01/14/15 11:54	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/14/15 11:54	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/14/15 11:54	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	42 %		21-110		1	01/12/15 09:15	01/14/15 11:54	4165-60-0	
2-Fluorobiphenyl (S)	41 %		27-110		1	01/12/15 09:15	01/14/15 11:54	321-60-8	
Terphenyl-d14 (S)	58 %		31-107		1	01/12/15 09:15	01/14/15 11:54	1718-51-0	
Phenol-d6 (S)	14 %		10-110		1	01/12/15 09:15	01/14/15 11:54	13127-88-3	
2-Fluorophenol (S)	22 %		12-110		1	01/12/15 09:15	01/14/15 11:54	367-12-4	
2,4,6-Tribromophenol (S)	47 %		27-110		1	01/12/15 09:15	01/14/15 11:54	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/13/15 04:15	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/13/15 04:15	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/13/15 04:15	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/13/15 04:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/13/15 04:15	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/13/15 04:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/13/15 04:15	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/13/15 04:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/13/15 04:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/13/15 04:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/13/15 04:15	75-00-3	
Chloroform	0.20J	ug/L	1.0	0.14	1		01/13/15 04:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/13/15 04:15	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/13/15 04:15	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/13/15 04:15	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/13/15 04:15	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4		Lab ID: 92232495004		Collected: 01/07/15 15:40		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/13/15 04:15	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/13/15 04:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/13/15 04:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/13/15 04:15	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/13/15 04:15	75-71-8	
1,1-Dichloroethane	0.39J	ug/L	1.0	0.32	1		01/13/15 04:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/13/15 04:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/13/15 04:15	75-35-4	
cis-1,2-Dichloroethene	7.0	ug/L	1.0	0.19	1		01/13/15 04:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/13/15 04:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/13/15 04:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/13/15 04:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/13/15 04:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/13/15 04:15	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/13/15 04:15	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/13/15 04:15	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/13/15 04:15	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/13/15 04:15	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/13/15 04:15	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/13/15 04:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/13/15 04:15	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/13/15 04:15	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/13/15 04:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/13/15 04:15	79-34-5	
Tetrachloroethene	0.68J	ug/L	1.0	0.46	1		01/13/15 04:15	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/13/15 04:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/13/15 04:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/13/15 04:15	120-82-1	
1,1,1-Trichloroethane	4.1	ug/L	1.0	0.48	1		01/13/15 04:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/13/15 04:15	79-00-5	
Trichloroethene	111	ug/L	1.0	0.47	1		01/13/15 04:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/13/15 04:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/13/15 04:15	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/13/15 04:15	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/13/15 04:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/13/15 04:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		1		01/13/15 04:15	460-00-4	
1,2-Dichloroethane-d4 (S)	110 %		70-130		1		01/13/15 04:15	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		01/13/15 04:15	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4A		Lab ID: 92232495005		Collected: 01/07/15 16:45		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 17:43	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/12/15 09:15	01/13/15 17:43	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/12/15 09:15	01/13/15 17:43	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 17:43	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/12/15 09:15	01/13/15 17:43	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/12/15 09:15	01/13/15 17:43	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 17:43	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/12/15 09:15	01/13/15 17:43	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/12/15 09:15	01/13/15 17:43	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/12/15 09:15	01/13/15 17:43	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 17:43	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/12/15 09:15	01/13/15 17:43	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/12/15 09:15	01/13/15 17:43	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 17:43	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 17:43	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/12/15 09:15	01/13/15 17:43	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 17:43	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 17:43	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/12/15 09:15	01/13/15 17:43	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 17:43	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 17:43	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 17:43	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/12/15 09:15	01/13/15 17:43	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 17:43	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/12/15 09:15	01/13/15 17:43	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/12/15 09:15	01/13/15 17:43	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/12/15 09:15	01/13/15 17:43	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/12/15 09:15	01/13/15 17:43	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/12/15 09:15	01/13/15 17:43	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/12/15 09:15	01/13/15 17:43	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 17:43	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/12/15 09:15	01/13/15 17:43	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/12/15 09:15	01/13/15 17:43	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/12/15 09:15	01/13/15 17:43	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/12/15 09:15	01/13/15 17:43	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 17:43	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/12/15 09:15	01/13/15 17:43	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 17:43	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 17:43	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 17:43	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 17:43	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4A		Lab ID: 92232495005		Collected: 01/07/15 16:45		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43		
Naphthalene	ND	ug/L	10.0	0.93	1	01/12/15 09:15	01/13/15 17:43	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/12/15 09:15	01/13/15 17:43	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/12/15 09:15	01/13/15 17:43	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 17:43	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/12/15 09:15	01/13/15 17:43	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/12/15 09:15	01/13/15 17:43	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 17:43	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/12/15 09:15	01/13/15 17:43	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/12/15 09:15	01/13/15 17:43	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/12/15 09:15	01/13/15 17:43	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 17:43	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 17:43	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 17:43	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 17:43	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/12/15 09:15	01/13/15 17:43	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 17:43	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 17:43	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	41 %		21-110		1	01/12/15 09:15	01/13/15 17:43	4165-60-0	
2-Fluorobiphenyl (S)	43 %		27-110		1	01/12/15 09:15	01/13/15 17:43	321-60-8	
Terphenyl-d14 (S)	69 %		31-107		1	01/12/15 09:15	01/13/15 17:43	1718-51-0	
Phenol-d6 (S)	14 %		10-110		1	01/12/15 09:15	01/13/15 17:43	13127-88-3	
2-Fluorophenol (S)	22 %		12-110		1	01/12/15 09:15	01/13/15 17:43	367-12-4	
2,4,6-Tribromophenol (S)	41 %		27-110		1	01/12/15 09:15	01/13/15 17:43	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/12/15 20:04	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/12/15 20:04	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/12/15 20:04	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/12/15 20:04	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/12/15 20:04	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/12/15 20:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/12/15 20:04	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/12/15 20:04	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/12/15 20:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/12/15 20:04	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/12/15 20:04	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		01/12/15 20:04	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/12/15 20:04	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/12/15 20:04	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/12/15 20:04	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/12/15 20:04	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-4A		Lab ID: 92232495005		Collected: 01/07/15 16:45		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/12/15 20:04	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/12/15 20:04	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/12/15 20:04	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/12/15 20:04	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/12/15 20:04	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/12/15 20:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/12/15 20:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/12/15 20:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/12/15 20:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/12/15 20:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/12/15 20:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/12/15 20:04	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/12/15 20:04	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/12/15 20:04	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/12/15 20:04	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/12/15 20:04	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/12/15 20:04	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/12/15 20:04	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/12/15 20:04	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/12/15 20:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/12/15 20:04	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/12/15 20:04	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/12/15 20:04	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/12/15 20:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/12/15 20:04	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/12/15 20:04	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/12/15 20:04	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/12/15 20:04	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/12/15 20:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/12/15 20:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		01/12/15 20:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/12/15 20:04	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/12/15 20:04	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/12/15 20:04	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/12/15 20:04	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/12/15 20:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		01/12/15 20:04	460-00-4	
1,2-Dichloroethane-d4 (S)	118 %		70-130		1		01/12/15 20:04	17060-07-0	
Toluene-d8 (S)	97 %		70-130		1		01/12/15 20:04	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-6		Lab ID: 92232495006		Collected: 01/07/15 17:20		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:19	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/12/15 09:15	01/13/15 18:19	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/12/15 09:15	01/13/15 18:19	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 18:19	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/12/15 09:15	01/13/15 18:19	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/12/15 09:15	01/13/15 18:19	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 18:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/12/15 09:15	01/13/15 18:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/12/15 09:15	01/13/15 18:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/12/15 09:15	01/13/15 18:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:19	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/12/15 09:15	01/13/15 18:19	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/12/15 09:15	01/13/15 18:19	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:19	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:19	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/12/15 09:15	01/13/15 18:19	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 18:19	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 18:19	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/12/15 09:15	01/13/15 18:19	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:19	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:19	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/12/15 09:15	01/13/15 18:19	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:19	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/12/15 09:15	01/13/15 18:19	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/12/15 09:15	01/13/15 18:19	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/12/15 09:15	01/13/15 18:19	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/12/15 09:15	01/13/15 18:19	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/12/15 09:15	01/13/15 18:19	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/12/15 09:15	01/13/15 18:19	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 18:19	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/12/15 09:15	01/13/15 18:19	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/12/15 09:15	01/13/15 18:19	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/12/15 09:15	01/13/15 18:19	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/12/15 09:15	01/13/15 18:19	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 18:19	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/12/15 09:15	01/13/15 18:19	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:19	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 18:19	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:19	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 18:19	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-6		Lab ID: 92232495006		Collected: 01/07/15 17:20		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19		
Naphthalene	ND	ug/L	10.0	0.93	1	01/12/15 09:15	01/13/15 18:19	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/12/15 09:15	01/13/15 18:19	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/12/15 09:15	01/13/15 18:19	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 18:19	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/12/15 09:15	01/13/15 18:19	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/12/15 09:15	01/13/15 18:19	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:19	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/12/15 09:15	01/13/15 18:19	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/12/15 09:15	01/13/15 18:19	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/12/15 09:15	01/13/15 18:19	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:19	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:19	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:19	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 18:19	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/12/15 09:15	01/13/15 18:19	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:19	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:19	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	32 %		21-110		1	01/12/15 09:15	01/13/15 18:19	4165-60-0	
2-Fluorobiphenyl (S)	35 %		27-110		1	01/12/15 09:15	01/13/15 18:19	321-60-8	
Terphenyl-d14 (S)	70 %		31-107		1	01/12/15 09:15	01/13/15 18:19	1718-51-0	
Phenol-d6 (S)	12 %		10-110		1	01/12/15 09:15	01/13/15 18:19	13127-88-3	
2-Fluorophenol (S)	19 %		12-110		1	01/12/15 09:15	01/13/15 18:19	367-12-4	
2,4,6-Tribromophenol (S)	53 %		27-110		1	01/12/15 09:15	01/13/15 18:19	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	250	100	10		01/10/15 13:51	67-64-1	
Benzene	ND	ug/L	10.0	2.5	10		01/10/15 13:51	71-43-2	
Bromochloromethane	ND	ug/L	10.0	1.7	10		01/10/15 13:51	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	1.8	10		01/10/15 13:51	75-27-4	
Bromoform	ND	ug/L	10.0	2.6	10		01/10/15 13:51	75-25-2	
Bromomethane	ND	ug/L	20.0	2.9	10		01/10/15 13:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	9.6	10		01/10/15 13:51	78-93-3	
Carbon disulfide	ND	ug/L	20.0	11.5	10		01/10/15 13:51	75-15-0	
Carbon tetrachloride	ND	ug/L	10.0	2.5	10		01/10/15 13:51	56-23-5	
Chlorobenzene	ND	ug/L	10.0	2.3	10		01/10/15 13:51	108-90-7	
Chloroethane	ND	ug/L	10.0	5.4	10		01/10/15 13:51	75-00-3	
Chloroform	5.7J	ug/L	10.0	1.4	10		01/10/15 13:51	67-66-3	
Chloromethane	ND	ug/L	10.0	1.1	10		01/10/15 13:51	74-87-3	
Cyclohexane	ND	ug/L	10.0	3.6	10		01/10/15 13:51	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	20.0	20.0	10		01/10/15 13:51	96-12-8	
Dibromochloromethane	ND	ug/L	10.0	2.1	10		01/10/15 13:51	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: MW-6		Lab ID: 92232495006		Collected: 01/07/15 17:20		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	2.7	10		01/10/15 13:51	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	10.0	3.0	10		01/10/15 13:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	2.4	10		01/10/15 13:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	3.3	10		01/10/15 13:51	106-46-7	
Dichlorodifluoromethane	ND	ug/L	10.0	2.1	10		01/10/15 13:51	75-71-8	
1,1-Dichloroethane	ND	ug/L	10.0	3.2	10		01/10/15 13:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	10.0	1.2	10		01/10/15 13:51	107-06-2	
1,1-Dichloroethene	16.9	ug/L	10.0	5.6	10		01/10/15 13:51	75-35-4	
cis-1,2-Dichloroethene	2.1J	ug/L	10.0	1.9	10		01/10/15 13:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	10.0	4.9	10		01/10/15 13:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	10.0	2.7	10		01/10/15 13:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	10.0	1.3	10		01/10/15 13:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	10.0	2.6	10		01/10/15 13:51	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	1500	784	10		01/10/15 13:51	123-91-1	
Ethylbenzene	ND	ug/L	10.0	3.0	10		01/10/15 13:51	100-41-4	
2-Hexanone	ND	ug/L	50.0	4.6	10		01/10/15 13:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	4.0	10		01/10/15 13:51	98-82-8	
Methyl acetate	ND	ug/L	100	8.2	10		01/10/15 13:51	79-20-9	
Methylcyclohexane	198	ug/L	100	18.7	10		01/10/15 13:51	108-87-2	
Methylene Chloride	ND	ug/L	20.0	9.7	10		01/10/15 13:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	3.3	10		01/10/15 13:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	10.0	2.1	10		01/10/15 13:51	1634-04-4	
Styrene	ND	ug/L	10.0	2.6	10		01/10/15 13:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	4.0	10		01/10/15 13:51	79-34-5	
Tetrachloroethene	4.8J	ug/L	10.0	4.6	10		01/10/15 13:51	127-18-4	
Toluene	ND	ug/L	10.0	2.6	10		01/10/15 13:51	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	10.0	3.3	10		01/10/15 13:51	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	3.5	10		01/10/15 13:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	10.0	4.8	10		01/10/15 13:51	71-55-6	
1,1,2-Trichloroethane	3.3J	ug/L	10.0	2.9	10		01/10/15 13:51	79-00-5	
Trichloroethene	18700	ug/L	125	58.8	125		01/14/15 04:36	79-01-6	
Trichlorofluoromethane	ND	ug/L	10.0	2.0	10		01/10/15 13:51	75-69-4	
1,1,2-Trichlorotrifluoroethane	4.7J	ug/L	10.0	1.9	10		01/10/15 13:51	76-13-1	
Vinyl chloride	ND	ug/L	10.0	6.2	10		01/10/15 13:51	75-01-4	
m&p-Xylene	15.8J	ug/L	20.0	6.6	10		01/10/15 13:51	179601-23-1	
o-Xylene	12.2	ug/L	10.0	2.3	10		01/10/15 13:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		10		01/10/15 13:51	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		10		01/10/15 13:51	17060-07-0	
Toluene-d8 (S)	97	%	70-130		10		01/10/15 13:51	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: EB-01		Lab ID: 92232495007		Collected: 01/08/15 10:30		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:55	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/12/15 09:15	01/13/15 18:55	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/12/15 09:15	01/13/15 18:55	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 18:55	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/12/15 09:15	01/13/15 18:55	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/12/15 09:15	01/13/15 18:55	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/12/15 09:15	01/13/15 18:55	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/12/15 09:15	01/13/15 18:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/12/15 09:15	01/13/15 18:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/12/15 09:15	01/13/15 18:55	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:55	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/12/15 09:15	01/13/15 18:55	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/12/15 09:15	01/13/15 18:55	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:55	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:55	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/12/15 09:15	01/13/15 18:55	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 18:55	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 18:55	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/12/15 09:15	01/13/15 18:55	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:55	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:55	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/12/15 09:15	01/13/15 18:55	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:55	120-83-2	
Diethylphthalate	1.9J	ug/L	10.0	0.91	1	01/12/15 09:15	01/13/15 18:55	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/12/15 09:15	01/13/15 18:55	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/12/15 09:15	01/13/15 18:55	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/12/15 09:15	01/13/15 18:55	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/12/15 09:15	01/13/15 18:55	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/12/15 09:15	01/13/15 18:55	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 18:55	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/12/15 09:15	01/13/15 18:55	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/12/15 09:15	01/13/15 18:55	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/12/15 09:15	01/13/15 18:55	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/12/15 09:15	01/13/15 18:55	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 18:55	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/12/15 09:15	01/13/15 18:55	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:55	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/12/15 09:15	01/13/15 18:55	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:55	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/12/15 09:15	01/13/15 18:55	78-59-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: EB-01		Lab ID: 92232495007		Collected: 01/08/15 10:30		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55		
Naphthalene	ND	ug/L	10.0	0.93	1	01/12/15 09:15	01/13/15 18:55	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/12/15 09:15	01/13/15 18:55	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/12/15 09:15	01/13/15 18:55	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/12/15 09:15	01/13/15 18:55	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/12/15 09:15	01/13/15 18:55	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/12/15 09:15	01/13/15 18:55	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:55	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/12/15 09:15	01/13/15 18:55	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/12/15 09:15	01/13/15 18:55	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/12/15 09:15	01/13/15 18:55	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/12/15 09:15	01/13/15 18:55	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/12/15 09:15	01/13/15 18:55	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/12/15 09:15	01/13/15 18:55	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/12/15 09:15	01/13/15 18:55	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/12/15 09:15	01/13/15 18:55	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/12/15 09:15	01/13/15 18:55	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/12/15 09:15	01/13/15 18:55	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	31 %		21-110		1	01/12/15 09:15	01/13/15 18:55	4165-60-0	
2-Fluorobiphenyl (S)	29 %		27-110		1	01/12/15 09:15	01/13/15 18:55	321-60-8	
Terphenyl-d14 (S)	71 %		31-107		1	01/12/15 09:15	01/13/15 18:55	1718-51-0	
Phenol-d6 (S)	11 %		10-110		1	01/12/15 09:15	01/13/15 18:55	13127-88-3	
2-Fluorophenol (S)	16 %		12-110		1	01/12/15 09:15	01/13/15 18:55	367-12-4	
2,4,6-Tribromophenol (S)	47 %		27-110		1	01/12/15 09:15	01/13/15 18:55	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	27.8	ug/L	25.0	10.0	1		01/10/15 11:18	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/10/15 11:18	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/10/15 11:18	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/10/15 11:18	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/10/15 11:18	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/10/15 11:18	74-83-9	
2-Butanone (MEK)	3.8J	ug/L	5.0	0.96	1		01/10/15 11:18	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/10/15 11:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/10/15 11:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/10/15 11:18	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/10/15 11:18	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		01/10/15 11:18	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/10/15 11:18	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/10/15 11:18	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/10/15 11:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/10/15 11:18	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Sample: EB-01		Lab ID: 92232495007		Collected: 01/08/15 10:30		Received: 01/08/15 12:11		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/10/15 11:18	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/10/15 11:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/10/15 11:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/10/15 11:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/10/15 11:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/10/15 11:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/10/15 11:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/10/15 11:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/10/15 11:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/10/15 11:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/10/15 11:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/10/15 11:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/10/15 11:18	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/10/15 11:18	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/10/15 11:18	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/10/15 11:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/10/15 11:18	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/10/15 11:18	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/10/15 11:18	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/10/15 11:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/10/15 11:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/10/15 11:18	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/10/15 11:18	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/10/15 11:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/10/15 11:18	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/10/15 11:18	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/10/15 11:18	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/10/15 11:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/10/15 11:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/10/15 11:18	79-00-5	
Trichloroethene	0.92J	ug/L	1.0	0.47	1		01/10/15 11:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/10/15 11:18	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/10/15 11:18	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/10/15 11:18	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/10/15 11:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/10/15 11:18	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		01/10/15 11:18	460-00-4	
1,2-Dichloroethane-d4 (S)	109 %		70-130		1		01/10/15 11:18	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/10/15 11:18	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

QC Batch:	MSV/29959	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92232495001, 92232495002, 92232495006, 92232495007		

METHOD BLANK:	1367604	Matrix:	Water
Associated Lab Samples:	92232495001, 92232495002, 92232495006, 92232495007		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/10/15 04:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/10/15 04:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/10/15 04:47	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/10/15 04:47	
1,1-Dichloroethane	ug/L	ND	1.0	01/10/15 04:47	
1,1-Dichloroethene	ug/L	ND	1.0	01/10/15 04:47	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/10/15 04:47	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/10/15 04:47	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
1,2-Dichloroethane	ug/L	ND	1.0	01/10/15 04:47	
1,2-Dichloropropane	ug/L	ND	1.0	01/10/15 04:47	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/10/15 04:47	
2-Butanone (MEK)	ug/L	ND	5.0	01/10/15 04:47	
2-Hexanone	ug/L	ND	5.0	01/10/15 04:47	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/10/15 04:47	
Acetone	ug/L	ND	25.0	01/10/15 04:47	
Benzene	ug/L	ND	1.0	01/10/15 04:47	
Bromochloromethane	ug/L	ND	1.0	01/10/15 04:47	
Bromodichloromethane	ug/L	ND	1.0	01/10/15 04:47	
Bromoform	ug/L	ND	1.0	01/10/15 04:47	
Bromomethane	ug/L	ND	2.0	01/10/15 04:47	
Carbon disulfide	ug/L	ND	2.0	01/10/15 04:47	
Carbon tetrachloride	ug/L	ND	1.0	01/10/15 04:47	
Chlorobenzene	ug/L	ND	1.0	01/10/15 04:47	
Chloroethane	ug/L	ND	1.0	01/10/15 04:47	
Chloroform	ug/L	ND	1.0	01/10/15 04:47	
Chloromethane	ug/L	ND	1.0	01/10/15 04:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/10/15 04:47	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/10/15 04:47	
Cyclohexane	ug/L	ND	1.0	01/10/15 04:47	
Dibromochloromethane	ug/L	ND	1.0	01/10/15 04:47	
Dichlorodifluoromethane	ug/L	ND	1.0	01/10/15 04:47	
Ethylbenzene	ug/L	ND	1.0	01/10/15 04:47	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/10/15 04:47	
m&p-Xylene	ug/L	ND	2.0	01/10/15 04:47	
Methyl acetate	ug/L	ND	10.0	01/10/15 04:47	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/10/15 04:47	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

METHOD BLANK: 1367604

Matrix: Water

Associated Lab Samples: 92232495001, 92232495002, 92232495006, 92232495007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylcyclohexane	ug/L	ND	10.0	01/10/15 04:47	
Methylene Chloride	ug/L	ND	2.0	01/10/15 04:47	
o-Xylene	ug/L	ND	1.0	01/10/15 04:47	
Styrene	ug/L	ND	1.0	01/10/15 04:47	
Tetrachloroethene	ug/L	ND	1.0	01/10/15 04:47	
Toluene	ug/L	ND	1.0	01/10/15 04:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/10/15 04:47	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/10/15 04:47	
Trichloroethene	ug/L	ND	1.0	01/10/15 04:47	
Trichlorofluoromethane	ug/L	ND	1.0	01/10/15 04:47	
Vinyl chloride	ug/L	ND	1.0	01/10/15 04:47	
1,2-Dichloroethane-d4 (S)	%	103	70-130	01/10/15 04:47	
4-Bromofluorobenzene (S)	%	95	70-130	01/10/15 04:47	
Toluene-d8 (S)	%	99	70-130	01/10/15 04:47	

LABORATORY CONTROL SAMPLE: 1367605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.6	109	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	53.4	107	70-130	
1,1,2-Trichloroethane	ug/L	50	52.2	104	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	62.1	124	70-130	
1,1-Dichloroethane	ug/L	50	54.9	110	70-130	
1,1-Dichloroethene	ug/L	50	60.0	120	70-132	
1,2,3-Trichlorobenzene	ug/L	50	58.8	118	70-135	
1,2,4-Trichlorobenzene	ug/L	50	56.8	114	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	56.3	113	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	55.0	110	70-130	
1,2-Dichlorobenzene	ug/L	50	52.1	104	70-130	
1,2-Dichloroethane	ug/L	50	51.4	103	70-130	
1,2-Dichloropropane	ug/L	50	52.6	105	70-130	
1,3-Dichlorobenzene	ug/L	50	51.5	103	70-130	
1,4-Dichlorobenzene	ug/L	50	52.9	106	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	771	77	71-125	
2-Butanone (MEK)	ug/L	100	102	102	70-145	
2-Hexanone	ug/L	100	106	106	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	70-140	
Acetone	ug/L	100	105	105	50-175	
Benzene	ug/L	50	55.7	111	70-130	
Bromochloromethane	ug/L	50	54.4	109	70-130	
Bromodichloromethane	ug/L	50	49.1	98	70-130	
Bromoform	ug/L	50	45.1	90	70-130	
Bromomethane	ug/L	50	48.8	98	54-130	
Carbon disulfide	ug/L	50	59.4	119	70-131	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE: 1367605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	55.7	111	70-132	
Chlorobenzene	ug/L	50	53.2	106	70-130	
Chloroethane	ug/L	50	49.1	98	64-134	
Chloroform	ug/L	50	48.8	98	70-130	
Chloromethane	ug/L	50	40.6	81	64-130	
cis-1,2-Dichloroethene	ug/L	50	54.2	108	70-131	
cis-1,3-Dichloropropene	ug/L	50	51.2	102	70-130	
Cyclohexane	ug/L	50	51.5	103	70-130	
Dibromochloromethane	ug/L	50	51.6	103	70-130	
Dichlorodifluoromethane	ug/L	50	48.6	97	56-130	
Ethylbenzene	ug/L	50	53.8	108	70-130	
Isopropylbenzene (Cumene)	ug/L	50	54.6	109	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl acetate	ug/L	50	56.5	113	70-130	
Methyl-tert-butyl ether	ug/L	50	47.7	95	70-130	
Methylcyclohexane	ug/L	50	49.1	98	70-130	
Methylene Chloride	ug/L	50	53.4	107	63-130	
o-Xylene	ug/L	50	53.1	106	70-130	
Styrene	ug/L	50	55.5	111	70-130	
Tetrachloroethene	ug/L	50	51.5	103	70-130	
Toluene	ug/L	50	53.8	108	70-130	
trans-1,2-Dichloroethene	ug/L	50	57.1	114	70-130	
trans-1,3-Dichloropropene	ug/L	50	53.4	107	70-132	
Trichloroethene	ug/L	50	52.0	104	70-130	
Trichlorofluoromethane	ug/L	50	50.2	100	62-133	
Vinyl chloride	ug/L	50	46.6	93	50-150	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1367606

Parameter	Units	92232090001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	23.6	118	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.7	104	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	21.9	110	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	28.4	142	70-130	M0
1,1-Dichloroethane	ug/L	ND	20	23.7	119	70-130	
1,1-Dichloroethene	ug/L	ND	20	25.9	130	70-166	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.4	107	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	22.4	112	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	19.1	95	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.5	107	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.1	111	70-130	
1,2-Dichloroethane	ug/L	0.026 mg/L	20	50.8	127	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE SAMPLE:		1367606	92232090001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers	
1,2-Dichloropropane	ug/L	0.0065 mg/L	20	29.1	113	70-130		
1,3-Dichlorobenzene	ug/L	ND	20	22.1	111	70-130		
1,4-Dichlorobenzene	ug/L	ND	20	22.5	112	70-130		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	254	43	70-130	MO	
2-Butanone (MEK)	ug/L	ND	40	35.7	89	70-130		
2-Hexanone	ug/L	ND	40	26.5	66	70-130	MO	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	38.7	97	70-130		
Acetone	ug/L	ND	40	37.5	81	70-130		
Benzene	ug/L	ND	20	24.9	124	70-148		
Bromochloromethane	ug/L	ND	20	23.0	115	70-130		
Bromodichloromethane	ug/L	ND	20	20.4	102	70-130		
Bromoform	ug/L	ND	20	17.9	90	70-130		
Bromomethane	ug/L	ND	20	29.8	149	70-130	MO	
Carbon disulfide	ug/L	ND	20	25.6	128	70-130		
Carbon tetrachloride	ug/L	ND	20	24.7	124	70-130		
Chlorobenzene	ug/L	ND	20	23.1	115	70-146		
Chloroethane	ug/L	ND	20	22.1	111	70-130		
Chloroform	ug/L	ND	20	21.1	106	70-130		
Chloromethane	ug/L	ND	20	17.1	86	70-130		
cis-1,2-Dichloroethene	ug/L	0.15 mg/L	20	152	4	70-130		
cis-1,3-Dichloropropene	ug/L	ND	20	21.6	108	70-130		
Cyclohexane	ug/L	ND	20	23.4	117	70-130		
Dibromochloromethane	ug/L	ND	20	20.1	101	70-130		
Dichlorodifluoromethane	ug/L	ND	20	18.1	91	70-130		
Ethylbenzene	ug/L	ND	20	23.3	116	70-130		
Isopropylbenzene (Cumene)	ug/L	ND	20	23.5	117	70-130		
m&p-Xylene	ug/L	ND	40	47.0	117	70-130		
Methyl acetate	ug/L	ND	20	17.1	85	70-130		
Methyl-tert-butyl ether	ug/L	0.0049 mg/L	20	25.5	103	70-130		
Methylcyclohexane	ug/L	ND	20	23.1	116	70-130		
Methylene Chloride	ug/L	ND	20	22.6	113	70-130		
o-Xylene	ug/L	0.0029 mg/L	20	26.4	118	70-130		
Styrene	ug/L	ND	20	8.1	41	70-130	MO	
Tetrachloroethene	ug/L	0.0042 mg/L	20	26.7	113	70-130		
Toluene	ug/L	ND	20	23.6	118	70-155		
trans-1,2-Dichloroethene	ug/L	0.0031 mg/L	20	27.7	123	70-130		
trans-1,3-Dichloropropene	ug/L	ND	20	21.2	106	70-130		
Trichloroethene	ug/L	0.015 mg/L	20	36.6	108	69-151		
Trichlorofluoromethane	ug/L	ND	20	22.8	114	70-130		
Vinyl chloride	ug/L	ND	20	19.8	96	70-130		
1,2-Dichloroethane-d4 (S)	%				96	70-130		
4-Bromofluorobenzene (S)	%				99	70-130		
Toluene-d8 (S)	%				101	70-130		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

SAMPLE DUPLICATE: 1367607

Parameter	Units	92232290004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Cyclohexane	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl acetate	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	1.6	1.7	8	30	
Methylcyclohexane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

SAMPLE DUPLICATE: 1367607

Parameter	Units	92232290004 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	110	112	1		
4-Bromofluorobenzene (S)	%	98	99	1		
Toluene-d8 (S)	%	100	99	1		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

QC Batch: MSV/29967

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 92232495003, 92232495005

METHOD BLANK: 1368484

Matrix: Water

Associated Lab Samples: 92232495003, 92232495005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/12/15 19:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/12/15 19:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/12/15 19:13	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/12/15 19:13	
1,1-Dichloroethane	ug/L	ND	1.0	01/12/15 19:13	
1,1-Dichloroethene	ug/L	ND	1.0	01/12/15 19:13	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/12/15 19:13	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/12/15 19:13	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
1,2-Dichloroethane	ug/L	ND	1.0	01/12/15 19:13	
1,2-Dichloropropane	ug/L	ND	1.0	01/12/15 19:13	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/12/15 19:13	
2-Butanone (MEK)	ug/L	ND	5.0	01/12/15 19:13	
2-Hexanone	ug/L	ND	5.0	01/12/15 19:13	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/12/15 19:13	
Acetone	ug/L	ND	25.0	01/12/15 19:13	
Benzene	ug/L	ND	1.0	01/12/15 19:13	
Bromochloromethane	ug/L	ND	1.0	01/12/15 19:13	
Bromodichloromethane	ug/L	ND	1.0	01/12/15 19:13	
Bromoform	ug/L	ND	1.0	01/12/15 19:13	
Bromomethane	ug/L	ND	2.0	01/12/15 19:13	
Carbon disulfide	ug/L	ND	2.0	01/12/15 19:13	
Carbon tetrachloride	ug/L	ND	1.0	01/12/15 19:13	
Chlorobenzene	ug/L	ND	1.0	01/12/15 19:13	
Chloroethane	ug/L	ND	1.0	01/12/15 19:13	
Chloroform	ug/L	ND	1.0	01/12/15 19:13	
Chloromethane	ug/L	ND	1.0	01/12/15 19:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/12/15 19:13	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/12/15 19:13	
Cyclohexane	ug/L	ND	1.0	01/12/15 19:13	
Dibromochloromethane	ug/L	ND	1.0	01/12/15 19:13	
Dichlorodifluoromethane	ug/L	ND	1.0	01/12/15 19:13	
Ethylbenzene	ug/L	ND	1.0	01/12/15 19:13	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/12/15 19:13	
m&p-Xylene	ug/L	ND	2.0	01/12/15 19:13	
Methyl acetate	ug/L	ND	10.0	01/12/15 19:13	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/12/15 19:13	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

METHOD BLANK: 1368484

Matrix: Water

Associated Lab Samples: 92232495003, 92232495005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylcyclohexane	ug/L	ND	10.0	01/12/15 19:13	
Methylene Chloride	ug/L	ND	2.0	01/12/15 19:13	
o-Xylene	ug/L	ND	1.0	01/12/15 19:13	
Styrene	ug/L	ND	1.0	01/12/15 19:13	
Tetrachloroethene	ug/L	ND	1.0	01/12/15 19:13	
Toluene	ug/L	ND	1.0	01/12/15 19:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/12/15 19:13	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/12/15 19:13	
Trichloroethene	ug/L	ND	1.0	01/12/15 19:13	
Trichlorofluoromethane	ug/L	ND	1.0	01/12/15 19:13	
Vinyl chloride	ug/L	ND	1.0	01/12/15 19:13	
1,2-Dichloroethane-d4 (S)	%	110	70-130	01/12/15 19:13	
4-Bromofluorobenzene (S)	%	94	70-130	01/12/15 19:13	
Toluene-d8 (S)	%	97	70-130	01/12/15 19:13	

LABORATORY CONTROL SAMPLE: 1368485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.3	113	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.0	104	70-130	
1,1,2-Trichloroethane	ug/L	50	51.9	104	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	65.4	131	70-130	L3
1,1-Dichloroethane	ug/L	50	55.1	110	70-130	
1,1-Dichloroethene	ug/L	50	62.2	124	70-132	
1,2,3-Trichlorobenzene	ug/L	50	60.6	121	70-135	
1,2,4-Trichlorobenzene	ug/L	50	57.8	116	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	57.1	114	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.0	108	70-130	
1,2-Dichlorobenzene	ug/L	50	50.9	102	70-130	
1,2-Dichloroethane	ug/L	50	54.3	109	70-130	
1,2-Dichloropropane	ug/L	50	51.8	104	70-130	
1,3-Dichlorobenzene	ug/L	50	51.1	102	70-130	
1,4-Dichlorobenzene	ug/L	50	51.3	103	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	548	55	71-125	L0
2-Butanone (MEK)	ug/L	100	101	101	70-145	
2-Hexanone	ug/L	100	103	103	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	70-140	
Acetone	ug/L	100	108	108	50-175	
Benzene	ug/L	50	54.3	109	70-130	
Bromochloromethane	ug/L	50	53.8	108	70-130	
Bromodichloromethane	ug/L	50	50.5	101	70-130	
Bromoform	ug/L	50	45.9	92	70-130	
Bromomethane	ug/L	50	49.6	99	54-130	
Carbon disulfide	ug/L	50	59.9	120	70-131	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE: 1368485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	59.5	119	70-132	
Chlorobenzene	ug/L	50	51.0	102	70-130	
Chloroethane	ug/L	50	50.2	100	64-134	
Chloroform	ug/L	50	48.1	96	70-130	
Chloromethane	ug/L	50	44.9	90	64-130	
cis-1,2-Dichloroethene	ug/L	50	55.1	110	70-131	
cis-1,3-Dichloropropene	ug/L	50	53.9	108	70-130	
Cyclohexane	ug/L	50	53.6	107	70-130	
Dibromochloromethane	ug/L	50	50.7	101	70-130	
Dichlorodifluoromethane	ug/L	50	59.3	119	56-130	
Ethylbenzene	ug/L	50	52.1	104	70-130	
Isopropylbenzene (Cumene)	ug/L	50	53.3	107	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl acetate	ug/L	50	60.0	120	70-130	
Methyl-tert-butyl ether	ug/L	50	47.5	95	70-130	
Methylcyclohexane	ug/L	50	51.2	102	70-130	
Methylene Chloride	ug/L	50	58.0	116	63-130	
o-Xylene	ug/L	50	51.4	103	70-130	
Styrene	ug/L	50	53.3	107	70-130	
Tetrachloroethene	ug/L	50	50.1	100	70-130	
Toluene	ug/L	50	52.4	105	70-130	
trans-1,2-Dichloroethene	ug/L	50	57.8	116	70-130	
trans-1,3-Dichloropropene	ug/L	50	56.3	113	70-132	
Trichloroethene	ug/L	50	51.4	103	70-130	
Trichlorofluoromethane	ug/L	50	55.3	111	62-133	
Vinyl chloride	ug/L	50	49.3	99	50-150	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368486 1368487

Parameter	Units	92232720011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	1.1	20	20	25.8	25.8	123	124	70-130	0	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.8	21.4	99	107	70-130	8	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	21.7	21.8	108	109	70-130	1	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	28.1	28.7	140	143	70-130	2	30	MO
1,1-Dichloroethane	ug/L	6.5	20	20	29.8	30.0	117	118	70-130	1	30	
1,1-Dichloroethene	ug/L	ND	20	20	27.7	27.9	135	135	70-166	1	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20.6	23.3	103	116	70-130	12	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	21.1	22.7	105	113	70-130	7	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	16.8	21.5	84	108	70-130	25	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	21.7	22.1	109	111	70-130	2	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368486 1368487											
Parameter	Units	92232720011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,2-Dichlorobenzene	ug/L	ND	20	20	22.1	21.4	111	107	70-130	4	30
1,2-Dichloroethane	ug/L	ND	20	20	22.8	23.0	114	115	70-130	1	30
1,2-Dichloropropane	ug/L	ND	20	20	23.0	22.4	115	112	70-130	3	30
1,3-Dichlorobenzene	ug/L	ND	20	20	22.5	21.6	112	108	70-130	4	30
1,4-Dichlorobenzene	ug/L	ND	20	20	23.2	22.2	116	111	70-130	4	30
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	167	280	42	70	70-130	50	30 M0,R1
2-Butanone (MEK)	ug/L	ND	40	40	28.2	39.1	71	98	70-130	32	30 R1
2-Hexanone	ug/L	ND	40	40	19.6	30.0	49	75	70-130	42	30 M0,R1
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	40	36.2	43.5	90	109	70-130	18	30
Acetone	ug/L	ND	40	40	28.8	40.9	65	95	70-130	35	30 M0,R1
Benzene	ug/L	ND	20	20	24.6	24.9	123	125	70-148	1	30
Bromochloromethane	ug/L	ND	20	20	23.9	22.6	120	113	70-130	6	30
Bromodichloromethane	ug/L	ND	20	20	21.5	21.6	108	108	70-130	1	30
Bromoform	ug/L	ND	20	20	18.5	19.2	93	96	70-130	3	30
Bromomethane	ug/L	ND	20	20	28.9	26.4	144	132	70-130	9	30 M0
Carbon disulfide	ug/L	ND	20	20	25.2	25.5	126	127	70-130	1	30
Carbon tetrachloride	ug/L	ND	20	20	26.4	25.9	132	130	70-130	2	30 M0
Chlorobenzene	ug/L	ND	20	20	23.3	22.7	117	113	70-146	3	30
Chloroethane	ug/L	ND	20	20	21.9	22.9	109	114	70-130	4	30
Chloroform	ug/L	ND	20	20	21.2	21.7	106	109	70-130	2	30
Chloromethane	ug/L	ND	20	20	15.9	15.7	79	78	70-130	1	30
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.2	24.2	121	121	70-130	0	30
cis-1,3-Dichloropropene	ug/L	ND	20	20	22.2	22.2	111	111	70-130	0	30
Cyclohexane	ug/L	ND	20	20	24.0	23.8	120	119	70-130	1	30
Dibromochloromethane	ug/L	ND	20	20	21.0	21.0	105	105	70-130	0	30
Dichlorodifluoromethane	ug/L	ND	20	20	15.9	16.1	79	81	70-130	2	30
Ethylbenzene	ug/L	ND	20	20	23.5	22.9	117	115	70-130	2	30
Isopropylbenzene (Cumene)	ug/L	ND	20	20	23.4	23.3	117	117	70-130	0	30
m&p-Xylene	ug/L	ND	40	40	47.7	46.7	119	117	70-130	2	30
Methyl acetate	ug/L	ND	20	20	16.8	22.3	84	111	70-130	28	30
Methyl-tert-butyl ether	ug/L	1.2	20	20	20.6	21.4	97	101	70-130	4	30
Methylcyclohexane	ug/L	ND	20	20	23.6	23.4	118	117	70-130	1	30
Methylene Chloride	ug/L	ND	20	20	22.2	22.8	111	114	70-130	3	30
o-Xylene	ug/L	ND	20	20	22.9	22.1	115	111	70-130	3	30
Styrene	ug/L	ND	20	20	23.4	22.3	117	111	70-130	5	30
Tetrachloroethene	ug/L	ND	20	20	23.4	22.4	117	112	70-130	4	30
Toluene	ug/L	ND	20	20	23.6	23.3	118	116	70-155	1	30
trans-1,2-Dichloroethene	ug/L	ND	20	20	25.5	25.6	127	128	70-130	1	30
trans-1,3-Dichloropropene	ug/L	ND	20	20	22.3	22.8	111	114	70-130	2	30
Trichloroethene	ug/L	ND	20	20	23.2	23.4	116	117	69-151	1	30
Trichlorofluoromethane	ug/L	ND	20	20	23.5	23.6	117	118	70-130	1	30
Vinyl chloride	ug/L	ND	20	20	19.1	18.7	95	94	70-130	2	30
1,2-Dichloroethane-d4 (S)	%						101	103	70-130		
4-Bromofluorobenzene (S)	%						98	99	70-130		
Toluene-d8 (S)	%						102	102	70-130		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

QC Batch: MSV/29968

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 92232495004

METHOD BLANK: 1368494

Matrix: Water

Associated Lab Samples: 92232495004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/12/15 19:30	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/12/15 19:30	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/12/15 19:30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/12/15 19:30	
1,1-Dichloroethane	ug/L	ND	1.0	01/12/15 19:30	
1,1-Dichloroethene	ug/L	ND	1.0	01/12/15 19:30	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/12/15 19:30	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/12/15 19:30	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
1,2-Dichloroethane	ug/L	ND	1.0	01/12/15 19:30	
1,2-Dichloropropane	ug/L	ND	1.0	01/12/15 19:30	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/12/15 19:30	
2-Butanone (MEK)	ug/L	ND	5.0	01/12/15 19:30	
2-Hexanone	ug/L	ND	5.0	01/12/15 19:30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/12/15 19:30	
Acetone	ug/L	ND	25.0	01/12/15 19:30	
Benzene	ug/L	ND	1.0	01/12/15 19:30	
Bromochloromethane	ug/L	ND	1.0	01/12/15 19:30	
Bromodichloromethane	ug/L	ND	1.0	01/12/15 19:30	
Bromoform	ug/L	ND	1.0	01/12/15 19:30	
Bromomethane	ug/L	ND	2.0	01/12/15 19:30	
Carbon disulfide	ug/L	ND	2.0	01/12/15 19:30	
Carbon tetrachloride	ug/L	ND	1.0	01/12/15 19:30	
Chlorobenzene	ug/L	ND	1.0	01/12/15 19:30	
Chloroethane	ug/L	ND	1.0	01/12/15 19:30	
Chloroform	ug/L	ND	1.0	01/12/15 19:30	
Chloromethane	ug/L	ND	1.0	01/12/15 19:30	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/12/15 19:30	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/12/15 19:30	
Cyclohexane	ug/L	ND	1.0	01/12/15 19:30	
Dibromochloromethane	ug/L	ND	1.0	01/12/15 19:30	
Dichlorodifluoromethane	ug/L	ND	1.0	01/12/15 19:30	
Ethylbenzene	ug/L	ND	1.0	01/12/15 19:30	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/12/15 19:30	
m&p-Xylene	ug/L	ND	2.0	01/12/15 19:30	
Methyl acetate	ug/L	ND	10.0	01/12/15 19:30	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/12/15 19:30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

METHOD BLANK: 1368494

Matrix: Water

Associated Lab Samples: 92232495004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylcyclohexane	ug/L	ND	10.0	01/12/15 19:30	
Methylene Chloride	ug/L	ND	2.0	01/12/15 19:30	
o-Xylene	ug/L	ND	1.0	01/12/15 19:30	
Styrene	ug/L	ND	1.0	01/12/15 19:30	
Tetrachloroethene	ug/L	ND	1.0	01/12/15 19:30	
Toluene	ug/L	ND	1.0	01/12/15 19:30	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/12/15 19:30	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/12/15 19:30	
Trichloroethene	ug/L	ND	1.0	01/12/15 19:30	
Trichlorofluoromethane	ug/L	ND	1.0	01/12/15 19:30	
Vinyl chloride	ug/L	ND	1.0	01/12/15 19:30	
1,2-Dichloroethane-d4 (S)	%	113	70-130	01/12/15 19:30	
4-Bromofluorobenzene (S)	%	95	70-130	01/12/15 19:30	
Toluene-d8 (S)	%	99	70-130	01/12/15 19:30	

LABORATORY CONTROL SAMPLE: 1368495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	57.8	116	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	48.9	98	70-130	
1,1,2-Trichloroethane	ug/L	50	52.2	104	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	67.6	135	70-130	L3
1,1-Dichloroethane	ug/L	50	55.7	111	70-130	
1,1-Dichloroethene	ug/L	50	64.3	129	70-132	
1,2,3-Trichlorobenzene	ug/L	50	51.4	103	70-135	
1,2,4-Trichlorobenzene	ug/L	50	52.3	105	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	46.6	93	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	52.9	106	70-130	
1,2-Dichlorobenzene	ug/L	50	51.5	103	70-130	
1,2-Dichloroethane	ug/L	50	52.3	105	70-130	
1,2-Dichloropropane	ug/L	50	53.2	106	70-130	
1,3-Dichlorobenzene	ug/L	50	51.6	103	70-130	
1,4-Dichlorobenzene	ug/L	50	52.6	105	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	370	37	71-125	L0
2-Butanone (MEK)	ug/L	100	82.7	83	70-145	
2-Hexanone	ug/L	100	81.1	81	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.9	94	70-140	
Acetone	ug/L	100	89.1	89	50-175	
Benzene	ug/L	50	56.2	112	70-130	
Bromochloromethane	ug/L	50	55.6	111	70-130	
Bromodichloromethane	ug/L	50	50.9	102	70-130	
Bromoform	ug/L	50	44.7	89	70-130	
Bromomethane	ug/L	50	58.0	116	54-130	
Carbon disulfide	ug/L	50	63.7	127	70-131	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE: 1368495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	60.5	121	70-132	
Chlorobenzene	ug/L	50	51.9	104	70-130	
Chloroethane	ug/L	50	55.1	110	64-134	
Chloroform	ug/L	50	49.1	98	70-130	
Chloromethane	ug/L	50	47.2	94	64-130	
cis-1,2-Dichloroethene	ug/L	50	56.5	113	70-131	
cis-1,3-Dichloropropene	ug/L	50	54.6	109	70-130	
Cyclohexane	ug/L	50	56.0	112	70-130	
Dibromochloromethane	ug/L	50	52.0	104	70-130	
Dichlorodifluoromethane	ug/L	50	60.5	121	56-130	
Ethylbenzene	ug/L	50	53.3	107	70-130	
Isopropylbenzene (Cumene)	ug/L	50	54.4	109	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl acetate	ug/L	50	50.7	101	70-130	
Methyl-tert-butyl ether	ug/L	50	47.8	96	70-130	
Methylcyclohexane	ug/L	50	53.2	106	70-130	
Methylene Chloride	ug/L	50	60.3	121	63-130	
o-Xylene	ug/L	50	51.6	103	70-130	
Styrene	ug/L	50	54.3	109	70-130	
Tetrachloroethene	ug/L	50	52.1	104	70-130	
Toluene	ug/L	50	53.6	107	70-130	
trans-1,2-Dichloroethene	ug/L	50	59.3	119	70-130	
trans-1,3-Dichloropropene	ug/L	50	56.6	113	70-132	
Trichloroethene	ug/L	50	53.1	106	70-130	
Trichlorofluoromethane	ug/L	50	57.2	114	62-133	
Vinyl chloride	ug/L	50	51.6	103	50-150	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE SAMPLE: 1368496

Parameter	Units	92232792012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	24.9	124	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	21.3	107	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	21.5	108	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	29.2	146	70-130	M0
1,1-Dichloroethane	ug/L	ND	20	24.3	121	70-130	
1,1-Dichloroethene	ug/L	ND	20	27.1	136	70-166	
1,2,3-Trichlorobenzene	ug/L	ND	20	25.0	125	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	23.9	120	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	21.5	108	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.8	109	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	
1,2-Dichloroethane	ug/L	ND	20	22.8	114	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE SAMPLE:		1368496					
Parameter	Units	92232792012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	ND	20	22.0	110	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.9	110	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	22.0	110	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	255	64	70-130	MO
2-Butanone (MEK)	ug/L	ND	40	40.4	101	70-130	
2-Hexanone	ug/L	ND	40	30.5	76	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	42.4	106	70-130	
Acetone	ug/L	ND	40	40.8	97	70-130	
Benzene	ug/L	ND	20	24.4	122	70-148	
Bromochloromethane	ug/L	ND	20	22.5	113	70-130	
Bromodichloromethane	ug/L	ND	20	20.9	105	70-130	
Bromoform	ug/L	ND	20	18.6	93	70-130	
Bromomethane	ug/L	ND	20	25.7	129	70-130	
Carbon disulfide	ug/L	ND	20	25.1	126	70-130	
Carbon tetrachloride	ug/L	ND	20	25.3	127	70-130	
Chlorobenzene	ug/L	ND	20	22.6	113	70-146	
Chloroethane	ug/L	ND	20	21.8	109	70-130	
Chloroform	ug/L	ND	20	21.3	107	70-130	
Chloromethane	ug/L	ND	20	16.3	82	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	24.3	121	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	22.0	110	70-130	
Cyclohexane	ug/L	ND	20	23.9	120	70-130	
Dibromochloromethane	ug/L	ND	20	20.1	101	70-130	
Dichlorodifluoromethane	ug/L	ND	20	15.9	80	70-130	
Ethylbenzene	ug/L	ND	20	22.8	114	70-130	
Isopropylbenzene (Cumene)	ug/L	ND	20	23.4	117	70-130	
m&p-Xylene	ug/L	ND	40	46.5	116	70-130	
Methyl acetate	ug/L	ND	20	23.5	117	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.1	101	70-130	
Methylcyclohexane	ug/L	ND	20	23.4	117	70-130	
Methylene Chloride	ug/L	ND	20	22.6	113	70-130	
o-Xylene	ug/L	ND	20	21.9	110	70-130	
Styrene	ug/L	ND	20	22.7	114	70-130	
Tetrachloroethene	ug/L	ND	20	22.6	113	70-130	
Toluene	ug/L	ND	20	23.3	117	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	25.5	128	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	22.1	111	70-130	
Trichloroethene	ug/L	ND	20	22.5	113	69-151	
Trichlorofluoromethane	ug/L	ND	20	23.5	118	70-130	
Vinyl chloride	ug/L	ND	20	18.9	94	70-130	
1,2-Dichloroethane-d4 (S)	%				107	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				101	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

SAMPLE DUPLICATE: 1368497

Parameter	Units	92232776001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	0.29J		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	3.4	3.4	0	30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Cyclohexane	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl acetate	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylcyclohexane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

SAMPLE DUPLICATE: 1368497

Parameter	Units	92232776001 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	113	114	1		
4-Bromofluorobenzene (S)	%	95	95	0		
Toluene-d8 (S)	%	99	98	1		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

QC Batch: OEXT/32194 Analysis Method: EPA 8270
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV
Associated Lab Samples: 92232495002, 92232495004, 92232495005, 92232495006, 92232495007

METHOD BLANK: 1368055 Matrix: Water
Associated Lab Samples: 92232495002, 92232495004, 92232495005, 92232495006, 92232495007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	10.0	01/14/15 10:42	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	10.0	01/14/15 10:42	
2,3,4,6-Tetrachlorophenol	ug/L	ND	10.0	01/14/15 10:42	
2,4,5-Trichlorophenol	ug/L	ND	10.0	01/14/15 10:42	
2,4,6-Trichlorophenol	ug/L	ND	10.0	01/14/15 10:42	
2,4-Dichlorophenol	ug/L	ND	10.0	01/14/15 10:42	
2,4-Dimethylphenol	ug/L	ND	10.0	01/14/15 10:42	
2,4-Dinitrophenol	ug/L	ND	50.0	01/14/15 10:42	
2,4-Dinitrotoluene	ug/L	ND	10.0	01/14/15 10:42	
2,6-Dinitrotoluene	ug/L	ND	10.0	01/14/15 10:42	
2-Chloronaphthalene	ug/L	ND	10.0	01/14/15 10:42	
2-Chlorophenol	ug/L	ND	10.0	01/14/15 10:42	
2-Methylnaphthalene	ug/L	ND	10.0	01/14/15 10:42	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	01/14/15 10:42	
2-Nitroaniline	ug/L	ND	50.0	01/14/15 10:42	
2-Nitrophenol	ug/L	ND	10.0	01/14/15 10:42	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	01/14/15 10:42	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	01/14/15 10:42	
3-Nitroaniline	ug/L	ND	50.0	01/14/15 10:42	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	01/14/15 10:42	
4-Bromophenylphenyl ether	ug/L	ND	10.0	01/14/15 10:42	
4-Chloro-3-methylphenol	ug/L	ND	20.0	01/14/15 10:42	
4-Chloroaniline	ug/L	ND	20.0	01/14/15 10:42	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	01/14/15 10:42	
4-Nitroaniline	ug/L	ND	20.0	01/14/15 10:42	
4-Nitrophenol	ug/L	ND	50.0	01/14/15 10:42	
Acenaphthene	ug/L	ND	10.0	01/14/15 10:42	
Acenaphthylene	ug/L	ND	10.0	01/14/15 10:42	
Acetophenone	ug/L	ND	10.0	01/14/15 10:42	
Anthracene	ug/L	ND	10.0	01/14/15 10:42	
Atrazine	ug/L	ND	20.0	01/14/15 10:42	
Benzaldehyde	ug/L	ND	20.0	01/14/15 10:42	
Benzo(a)anthracene	ug/L	ND	10.0	01/14/15 10:42	
Benzo(a)pyrene	ug/L	ND	10.0	01/14/15 10:42	
Benzo(b)fluoranthene	ug/L	ND	10.0	01/14/15 10:42	
Benzo(g,h,i)perylene	ug/L	ND	10.0	01/14/15 10:42	
Benzo(k)fluoranthene	ug/L	ND	10.0	01/14/15 10:42	
Biphenyl (Diphenyl)	ug/L	ND	10.0	01/14/15 10:42	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	01/14/15 10:42	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	01/14/15 10:42	
bis(2-Ethylhexyl)phthalate	ug/L	ND	6.0	01/14/15 10:42	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

METHOD BLANK: 1368055

Matrix: Water

Associated Lab Samples: 92232495002, 92232495004, 92232495005, 92232495006, 92232495007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	10.0	01/14/15 10:42	
Caprolactam	ug/L	ND	10.0	01/14/15 10:42	
Carbazole	ug/L	ND	10.0	01/14/15 10:42	
Chrysene	ug/L	ND	10.0	01/14/15 10:42	
Di-n-butylphthalate	ug/L	ND	10.0	01/14/15 10:42	
Di-n-octylphthalate	ug/L	ND	10.0	01/14/15 10:42	
Dibenz(a,h)anthracene	ug/L	ND	10.0	01/14/15 10:42	
Dibenzofuran	ug/L	ND	10.0	01/14/15 10:42	
Diethylphthalate	ug/L	ND	10.0	01/14/15 10:42	
Dimethylphthalate	ug/L	ND	10.0	01/14/15 10:42	
Fluoranthene	ug/L	ND	10.0	01/14/15 10:42	
Fluorene	ug/L	ND	10.0	01/14/15 10:42	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	01/14/15 10:42	
Hexachlorobenzene	ug/L	ND	10.0	01/14/15 10:42	
Hexachlorocyclopentadiene	ug/L	ND	10.0	01/14/15 10:42	
Hexachloroethane	ug/L	ND	10.0	01/14/15 10:42	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	01/14/15 10:42	
Isophorone	ug/L	ND	10.0	01/14/15 10:42	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	01/14/15 10:42	
N-Nitrosodiphenylamine	ug/L	ND	10.0	01/14/15 10:42	
Naphthalene	ug/L	ND	10.0	01/14/15 10:42	
Nitrobenzene	ug/L	ND	10.0	01/14/15 10:42	
Pentachlorophenol	ug/L	ND	25.0	01/14/15 10:42	
Phenanthrene	ug/L	ND	10.0	01/14/15 10:42	
Phenol	ug/L	ND	10.0	01/14/15 10:42	
Pyrene	ug/L	ND	10.0	01/14/15 10:42	
2,4,6-Tribromophenol (S)	%	44	27-110	01/14/15 10:42	
2-Fluorobiphenyl (S)	%	39	27-110	01/14/15 10:42	
2-Fluorophenol (S)	%	23	12-110	01/14/15 10:42	
Nitrobenzene-d5 (S)	%	40	21-110	01/14/15 10:42	
Phenol-d6 (S)	%	13	10-110	01/14/15 10:42	
Terphenyl-d14 (S)	%	80	31-107	01/14/15 10:42	

LABORATORY CONTROL SAMPLE: 1368056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	50	27.4	55	16-129	
2,2'-Oxybis(1-chloropropane)	ug/L	50	21.6	43	18-120	
2,3,4,6-Tetrachlorophenol	ug/L	50	83.0	166	54-276	
2,4,5-Trichlorophenol	ug/L	50	38.2	76	43-113	
2,4,6-Trichlorophenol	ug/L	50	31.5	63	42-120	
2,4-Dichlorophenol	ug/L	50	24.6	49	30-120	
2,4-Dimethylphenol	ug/L	50	24.4	49	29-111	
2,4-Dinitrophenol	ug/L	250	171	68	19-132	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE: 1368056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/L	50	45.5	91	58-128	
2,6-Dinitrotoluene	ug/L	50	46.1	92	54-129	
2-Chloronaphthalene	ug/L	50	31.9	64	43-117	
2-Chlorophenol	ug/L	50	24.8	50	37-120	
2-Methylnaphthalene	ug/L	50	24.1	48	33-120	
2-Methylphenol(o-Cresol)	ug/L	50	22.0	44	31-120	
2-Nitroaniline	ug/L	100	73.2	73	48-121	
2-Nitrophenol	ug/L	50	24.5	49	25-116	
3&4-Methylphenol(m&p Cresol)	ug/L	50	19.6	39	23-120	
3,3'-Dichlorobenzidine	ug/L	250	86.6	35	10-154	
3-Nitroaniline	ug/L	100	82.2	82	43-115	
4,6-Dinitro-2-methylphenol	ug/L	100	86.5	87	44-124	
4-Bromophenylphenyl ether	ug/L	50	42.6	85	34-113	
4-Chloro-3-methylphenol	ug/L	100	60.8	61	31-110	
4-Chloroaniline	ug/L	100	49.6	50	20-120	
4-Chlorophenylphenyl ether	ug/L	50	39.5	79	34-116	
4-Nitroaniline	ug/L	100	87.7	88	46-128	
4-Nitrophenol	ug/L	250	82.1	33	11-120	
Acenaphthene	ug/L	50	34.9	70	48-114	
Acenaphthylene	ug/L	50	35.6	71	48-112	
Acetophenone	ug/L	50	28.5	57	24-120	
Anthracene	ug/L	50	44.3	89	57-118	
Atrazine	ug/L	50	52.5	105	33-160	
Benzaldehyde	ug/L	50	ND	0	10-120	L2
Benzo(a)anthracene	ug/L	50	46.1	92	56-121	
Benzo(a)pyrene	ug/L	50	49.4	99	55-127	
Benzo(b)fluoranthene	ug/L	50	48.9	98	53-128	
Benzo(g,h,i)perylene	ug/L	50	46.6	93	54-125	
Benzo(k)fluoranthene	ug/L	50	44.7	89	51-123	
Biphenyl (Diphenyl)	ug/L	50	29.3	59	38-120	
bis(2-Chloroethoxy)methane	ug/L	50	29.5	59	32-120	
bis(2-Chloroethyl) ether	ug/L	50	26.6	53	33-111	
bis(2-Ethylhexyl)phthalate	ug/L	50	51.1	102	50-145	
Butylbenzylphthalate	ug/L	50	52.8	106	54-138	
Caprolactam	ug/L	50	14.0	28	10-115	
Carbazole	ug/L	50	42.1	84	59-119	
Chrysene	ug/L	50	47.4	95	58-127	
Di-n-butylphthalate	ug/L	50	48.5	97	56-125	
Di-n-octylphthalate	ug/L	50	46.4	93	50-134	
Dibenz(a,h)anthracene	ug/L	50	48.0	96	53-129	
Dibenzofuran	ug/L	50	37.4	75	45-120	
Diethylphthalate	ug/L	50	45.8	92	53-120	
Dimethylphthalate	ug/L	50	42.7	85	55-116	
Fluoranthene	ug/L	50	47.2	94	57-125	
Fluorene	ug/L	50	41.8	84	53-118	
Hexachloro-1,3-butadiene	ug/L	50	20.6	41	23-120	
Hexachlorobenzene	ug/L	50	43.2	86	49-116	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE: 1368056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorocyclopentadiene	ug/L	50	24.3	49	26-158	
Hexachloroethane	ug/L	50	24.3	49	30-114	
Indeno(1,2,3-cd)pyrene	ug/L	50	51.8	104	55-128	
Isophorone	ug/L	50	23.5	47	31-118	
N-Nitroso-di-n-propylamine	ug/L	50	26.0	52	32-119	
N-Nitrosodiphenylamine	ug/L	50	43.4	87	43-120	
Naphthalene	ug/L	50	23.7	47	32-120	
Nitrobenzene	ug/L	50	23.0	46	33-110	
Pentachlorophenol	ug/L	250	79.0	32	10-137	
Phenanthrene	ug/L	50	42.2	84	57-117	
Phenol	ug/L	50	12.8	26	10-120	
Pyrene	ug/L	50	46.6	93	55-122	
2,4,6-Tribromophenol (S)	%			90	27-110	
2-Fluorobiphenyl (S)	%			58	27-110	
2-Fluorophenol (S)	%			30	12-110	
Nitrobenzene-d5 (S)	%			44	21-110	
Phenol-d6 (S)	%			21	10-110	
Terphenyl-d14 (S)	%			91	31-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368057 1368058

Parameter	Units	92232495007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,2,4,5-Tetrachlorobenzene	ug/L	ND	100	100	44.6	42.5	45	43	50-150	5	30 M1
2,2'-Oxybis(1-chloropropane)	ug/L	ND	100	100	35.6	32.3	36	32	50-150	10	30 M1
2,3,4,6-Tetrachlorophenol	ug/L	ND	100	100	163	158	163	158	50-150	3	30 M1
2,4,5-Trichlorophenol	ug/L	ND	100	100	73.4	65.0	73	65	19-105	12	30
2,4,6-Trichlorophenol	ug/L	ND	100	100	57.6	51.3	58	51	13-108	12	30
2,4-Dichlorophenol	ug/L	ND	100	100	41.5	38.0	41	38	29-111	9	30
2,4-Dimethylphenol	ug/L	ND	100	100	41.0	37.5	41	37	21-103	9	30
2,4-Dinitrophenol	ug/L	ND	500	500	362	345	72	69	10-109	5	30
2,4-Dinitrotoluene	ug/L	ND	100	100	88.8	84.0	89	84	27-104	5	30
2,6-Dinitrotoluene	ug/L	ND	100	100	87.9	82.5	88	82	28-101	6	30
2-Chloronaphthalene	ug/L	ND	100	100	53.0	49.5	53	50	14-102	7	30
2-Chlorophenol	ug/L	ND	100	100	42.4	39.9	42	40	16-110	6	30
2-Methylnaphthalene	ug/L	ND	100	100	41.0	37.8	41	38	13-110	8	30
2-Methylphenol(o-Cresol)	ug/L	ND	100	100	39.6	35.4	40	35	19-110	11	30
2-Nitroaniline	ug/L	ND	200	200	146	131	73	65	26-103	11	30
2-Nitrophenol	ug/L	ND	100	100	42.2	39.4	42	39	20-110	7	30
3&4-Methylphenol(m&p Cresol)	ug/L	ND	100	100	36.2	32.4	36	32	20-110	11	30
3,3'-Dichlorobenzidine	ug/L	ND	500	500	174	163	35	33	25-112	6	30
3-Nitroaniline	ug/L	ND	200	200	171	156	85	78	29-110	9	30
4,6-Dinitro-2-methylphenol	ug/L	ND	200	200	167	167	84	84	10-117	0	30
4-Bromophenylphenyl ether	ug/L	ND	100	100	78.8	74.1	79	74	20-105	6	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368057 1368058											
Parameter	Units	92232495007		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Spike	Conc.	Result	% Rec	MSD	% Rec
									Limits	RPD	Max
4-Chloro-3-methylphenol	ug/L	ND	200	200	121	108	60	54	22-110	11	30
4-Chloroaniline	ug/L	ND	200	200	85.6	80.7	43	40	20-100	6	30
4-Chlorophenylphenyl ether	ug/L	ND	100	100	72.9	68.0	73	68	19-102	7	30
4-Nitroaniline	ug/L	ND	200	200	184	173	92	86	29-110	7	30
4-Nitrophenol	ug/L	ND	500	500	274	240	55	48	10-110	13	30
Acenaphthene	ug/L	ND	100	100	61.8	57.4	62	57	17-100	7	30
Acenaphthylene	ug/L	ND	100	100	62.0	57.2	62	57	21-100	8	30
Acetophenone	ug/L	ND	100	100	45.2	42.2	45	42	50-150	7	30 M1
Anthracene	ug/L	ND	100	100	84.8	80.4	85	80	24-109	5	30
Atrazine	ug/L	ND	100	100	101	96.1	101	96	50-150	5	30
Benzaldehyde	ug/L	ND	100	100	ND	ND	0	0	50-150		30 M0
Benzo(a)anthracene	ug/L	ND	100	100	89.0	83.8	89	84	22-117	6	30
Benzo(a)pyrene	ug/L	ND	100	100	93.8	93.1	94	93	23-104	1	30
Benzo(b)fluoranthene	ug/L	ND	100	100	94.9	88.2	95	88	23-103	7	30
Benzo(g,h,i)perylene	ug/L	ND	100	100	90.7	83.2	91	83	18-111	9	30
Benzo(k)fluoranthene	ug/L	ND	100	100	80.5	87.0	81	87	22-113	8	30
Biphenyl (Diphenyl)	ug/L	ND	100	100	48.0	44.7	48	45	50-150	7	30 M1
bis(2-Chloroethoxy)methane	ug/L	ND	100	100	49.3	45.5	49	46	22-110	8	30
bis(2-Chloroethyl) ether	ug/L	ND	100	100	43.7	40.3	44	40	16-110	8	30
bis(2-Ethylhexyl)phthalate	ug/L	ND	100	100	97.4	91.8	97	92	23-102	6	30
Butylbenzylphthalate	ug/L	ND	100	100	98.9	95.0	99	95	25-110	4	30
Caprolactam	ug/L	ND	100	100	46.0	43.2	46	43	50-150	6	30 M1
Carbazole	ug/L	ND	100	100	84.2	79.5	84	79	50-150	6	30
Chrysene	ug/L	ND	100	100	88.9	86.2	89	86	23-115	3	30
Di-n-butylphthalate	ug/L	ND	100	100	92.4	88.7	92	89	26-110	4	30
Di-n-octylphthalate	ug/L	ND	100	100	91.3	83.8	91	84	22-110	9	30
Dibenz(a,h)anthracene	ug/L	ND	100	100	91.0	86.1	91	86	21-112	6	30
Dibenzofuran	ug/L	ND	100	100	68.0	62.3	68	62	19-102	9	30
Diethylphthalate	ug/L	1.9J	100	100	93.5	86.9	92	85	29-110	7	30
Dimethylphthalate	ug/L	ND	100	100	82.5	78.7	83	79	27-110	5	30
Fluoranthene	ug/L	ND	100	100	92.6	88.1	93	88	23-112	5	30
Fluorene	ug/L	ND	100	100	78.9	72.9	79	73	22-104	8	30
Hexachloro-1,3-butadiene	ug/L	ND	100	100	37.0	36.9	37	37	10-110	0	30
Hexachlorobenzene	ug/L	ND	100	100	77.6	74.1	78	74	21-116	5	30
Hexachlorocyclopentadiene	ug/L	ND	100	100	39.8	38.9	40	39	10-110	2	30
Hexachloroethane	ug/L	ND	100	100	44.8	40.8	45	41	10-110	9	30
Indeno(1,2,3-cd)pyrene	ug/L	ND	100	100	98.7	92.1	99	92	20-113	7	30
Isophorone	ug/L	ND	100	100	39.3	36.3	39	36	50-150	8	30 M1
N-Nitroso-di-n-propylamine	ug/L	ND	100	100	42.7	37.8	43	38	21-105	12	30
N-Nitrosodiphenylamine	ug/L	ND	100	100	80.5	77.0	80	77	23-107	4	30
Naphthalene	ug/L	ND	100	100	41.1	38.3	41	38	10-110	7	30
Nitrobenzene	ug/L	ND	100	100	38.8	36.9	39	37	20-110	5	30
Pentachlorophenol	ug/L	ND	500	500	147	148	29	30	10-118	1	30
Phenanthrene	ug/L	ND	100	100	81.2	77.2	81	77	24-106	5	30
Phenol	ug/L	ND	100	100	29.2	26.1	29	26	12-110	11	30
Pyrene	ug/L	ND	100	100	83.9	80.4	84	80	24-114	4	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368057 1368058												
Parameter	Units	92232495007 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
2,4,6-Tribromophenol (S)	%						84	79	27-110			
2-Fluorobiphenyl (S)	%						47	43	27-110			
2-Fluorophenol (S)	%						31	28	12-110			
Nitrobenzene-d5 (S)	%						38	36	21-110			
Phenol-d6 (S)	%						24	22	10-110			
Terphenyl-d14 (S)	%						81	79	31-107			

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

QC Batch: OEXT/32253

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 Water MSSV

Associated Lab Samples: 92232495003

METHOD BLANK: 1369333

Matrix: Water

Associated Lab Samples: 92232495003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	10.0	01/14/15 17:10	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	10.0	01/14/15 17:10	
2,3,4,6-Tetrachlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4,5-Trichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4,6-Trichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dimethylphenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dinitrophenol	ug/L	ND	50.0	01/14/15 17:10	
2,4-Dinitrotoluene	ug/L	ND	10.0	01/14/15 17:10	
2,6-Dinitrotoluene	ug/L	ND	10.0	01/14/15 17:10	
2-Chloronaphthalene	ug/L	ND	10.0	01/14/15 17:10	
2-Chlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2-Methylnaphthalene	ug/L	ND	10.0	01/14/15 17:10	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	01/14/15 17:10	
2-Nitroaniline	ug/L	ND	50.0	01/14/15 17:10	
2-Nitrophenol	ug/L	ND	10.0	01/14/15 17:10	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	01/14/15 17:10	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	01/14/15 17:10	
3-Nitroaniline	ug/L	ND	50.0	01/14/15 17:10	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	01/14/15 17:10	
4-Bromophenylphenyl ether	ug/L	ND	10.0	01/14/15 17:10	
4-Chloro-3-methylphenol	ug/L	ND	20.0	01/14/15 17:10	
4-Chloroaniline	ug/L	ND	20.0	01/14/15 17:10	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	01/14/15 17:10	
4-Nitroaniline	ug/L	ND	20.0	01/14/15 17:10	
4-Nitrophenol	ug/L	ND	50.0	01/14/15 17:10	
Acenaphthene	ug/L	ND	10.0	01/14/15 17:10	
Acenaphthylene	ug/L	ND	10.0	01/14/15 17:10	
Acetophenone	ug/L	ND	10.0	01/14/15 17:10	
Anthracene	ug/L	ND	10.0	01/14/15 17:10	
Atrazine	ug/L	ND	20.0	01/14/15 17:10	
Benzaldehyde	ug/L	ND	20.0	01/14/15 17:10	
Benzo(a)anthracene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(a)pyrene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(b)fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(g,h,i)perylene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(k)fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Biphenyl (Diphenyl)	ug/L	ND	10.0	01/14/15 17:10	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	01/14/15 17:10	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	01/14/15 17:10	
bis(2-Ethylhexyl)phthalate	ug/L	ND	6.0	01/14/15 17:10	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

METHOD BLANK: 1369333

Matrix: Water

Associated Lab Samples: 92232495003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Caprolactam	ug/L	ND	10.0	01/14/15 17:10	
Carbazole	ug/L	ND	10.0	01/14/15 17:10	
Chrysene	ug/L	ND	10.0	01/14/15 17:10	
Di-n-butylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Di-n-octylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Dibenz(a,h)anthracene	ug/L	ND	10.0	01/14/15 17:10	
Dibenzofuran	ug/L	ND	10.0	01/14/15 17:10	
Diethylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Dimethylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Fluorene	ug/L	ND	10.0	01/14/15 17:10	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	01/14/15 17:10	
Hexachlorobenzene	ug/L	ND	10.0	01/14/15 17:10	
Hexachlorocyclopentadiene	ug/L	ND	10.0	01/14/15 17:10	
Hexachloroethane	ug/L	ND	10.0	01/14/15 17:10	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	01/14/15 17:10	
Isophorone	ug/L	ND	10.0	01/14/15 17:10	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	01/14/15 17:10	
N-Nitrosodiphenylamine	ug/L	ND	10.0	01/14/15 17:10	
Naphthalene	ug/L	ND	10.0	01/14/15 17:10	
Nitrobenzene	ug/L	ND	10.0	01/14/15 17:10	
Pentachlorophenol	ug/L	ND	25.0	01/14/15 17:10	
Phenanthrene	ug/L	ND	10.0	01/14/15 17:10	
Phenol	ug/L	ND	10.0	01/14/15 17:10	
Pyrene	ug/L	ND	10.0	01/14/15 17:10	
2,4,6-Tribromophenol (S)	%	39	27-110	01/14/15 17:10	
2-Fluorobiphenyl (S)	%	43	27-110	01/14/15 17:10	
2-Fluorophenol (S)	%	22	12-110	01/14/15 17:10	
Nitrobenzene-d5 (S)	%	40	21-110	01/14/15 17:10	
Phenol-d6 (S)	%	13	10-110	01/14/15 17:10	
Terphenyl-d14 (S)	%	55	31-107	01/14/15 17:10	

LABORATORY CONTROL SAMPLE & LCSD: 1369334

1369335

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	50	20.9	21.9	42	44	16-129	5	30	
2,2'-Oxybis(1-chloropropane)	ug/L	50	16.0	17.6	32	35	18-120	9	30	
2,3,4,6-Tetrachlorophenol	ug/L	50	70.8	63.9	142	128	54-276	10	30	
2,4,5-Trichlorophenol	ug/L	50	31.0	28.9	62	58	43-113	7	30	
2,4,6-Trichlorophenol	ug/L	50	25.6	24.8	51	50	42-120	3	30	
2,4-Dichlorophenol	ug/L	50	17.8	19.0	36	38	30-120	7	30	
2,4-Dimethylphenol	ug/L	50	18.3	18.6	37	37	29-111	1	30	
2,4-Dinitrophenol	ug/L	250	151	138	60	55	19-132	9	30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE & LCSD:		1369334	1369335							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-Dinitrotoluene	ug/L	50	38.3	36.5	77	73	58-128	5	30	
2,6-Dinitrotoluene	ug/L	50	39.4	37.5	79	75	54-129	5	30	
2-Chloronaphthalene	ug/L	50	25.0	25.3	50	51	43-117	1	30	
2-Chlorophenol	ug/L	50	17.7	18.8	35	38	37-120	6	30	L2
2-Methylnaphthalene	ug/L	50	18.6	19.2	37	38	33-120	3	30	
2-Methylphenol(o-Cresol)	ug/L	50	14.9	16.0	30	32	31-120	7	30	L2
2-Nitroaniline	ug/L	100	63.8	59.6	64	60	48-121	7	30	
2-Nitrophenol	ug/L	50	19.3	20.2	39	40	25-116	5	30	
3&4-Methylphenol(m&p Cresol)	ug/L	50	13.1	14.0	26	28	23-120	7	30	
3,3'-Dichlorobenzidine	ug/L	250	75.3	69.4	30	28	10-154	8	30	
3-Nitroaniline	ug/L	100	73.1	68.6	73	69	43-115	6	30	
4,6-Dinitro-2-methylphenol	ug/L	100	74.2	68.7	74	69	44-124	8	30	
4-Bromophenylphenyl ether	ug/L	50	34.9	32.3	70	65	34-113	8	30	
4-Chloro-3-methylphenol	ug/L	100	48.7	47.3	49	47	31-110	3	30	
4-Chloroaniline	ug/L	100	39.8	40.5	40	41	20-120	2	30	
4-Chlorophenylphenyl ether	ug/L	50	32.6	31.0	65	62	34-116	5	30	
4-Nitroaniline	ug/L	100	79.2	73.1	79	73	46-128	8	30	
4-Nitrophenol	ug/L	250	79.0	72.4	32	29	11-120	9	30	
Acenaphthene	ug/L	50	28.7	27.8	57	56	48-114	3	30	
Acenaphthylene	ug/L	50	29.0	27.8	58	56	48-112	4	30	
Acetophenone	ug/L	50	19.7	21.4	39	43	24-120	8	30	
Anthracene	ug/L	50	38.2	35.0	76	70	57-118	9	30	
Atrazine	ug/L	50	42.7	41.2	85	82	33-160	4	30	
Benzaldehyde	ug/L	50	ND	ND	0	0	10-120		30	L2
Benzo(a)anthracene	ug/L	50	39.2	36.3	78	73	56-121	8	30	
Benzo(a)pyrene	ug/L	50	43.0	39.8	86	80	55-127	8	30	
Benzo(b)fluoranthene	ug/L	50	40.7	38.7	81	77	53-128	5	30	
Benzo(g,h,i)perylene	ug/L	50	40.2	36.1	80	72	54-125	11	30	
Benzo(k)fluoranthene	ug/L	50	36.2	34.4	72	69	51-123	5	30	
Biphenyl (Diphenyl)	ug/L	50	22.8	23.2	46	46	38-120	2	30	
bis(2-Chloroethoxy)methane	ug/L	50	22.4	23.4	45	47	32-120	4	30	
bis(2-Chloroethyl) ether	ug/L	50	19.8	20.7	40	41	33-111	4	30	
bis(2-Ethylhexyl)phthalate	ug/L	50	40.6	37.3	81	75	50-145	8	30	
Butylbenzylphthalate	ug/L	50	42.5	39.7	85	79	54-138	7	30	
Caprolactam	ug/L	50	11.1	11.2	22	22	10-115	1	30	
Carbazole	ug/L	50	37.0	34.0	74	68	59-119	8	30	
Chrysene	ug/L	50	40.1	36.5	80	73	58-127	9	30	
Di-n-butylphthalate	ug/L	50	39.8	36.9	80	74	56-125	8	30	
Di-n-octylphthalate	ug/L	50	39.2	35.7	78	71	50-134	9	30	
Dibenz(a,h)anthracene	ug/L	50	39.2	37.6	78	75	53-129	4	30	
Dibenzofuran	ug/L	50	31.0	29.6	62	59	45-120	5	30	
Diethylphthalate	ug/L	50	38.3	35.9	77	72	53-120	7	30	
Dimethylphthalate	ug/L	50	35.8	34.0	72	68	55-116	5	30	
Fluoranthene	ug/L	50	41.5	38.5	83	77	57-125	8	30	
Fluorene	ug/L	50	35.1	33.8	70	68	53-118	4	30	
Hexachloro-1,3-butadiene	ug/L	50	14.7	15.4	29	31	23-120	5	30	
Hexachlorobenzene	ug/L	50	35.5	32.2	71	64	49-116	10	30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

LABORATORY CONTROL SAMPLE & LCSD: 1369334			1369335							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachlorocyclopentadiene	ug/L	50	17.6	18.1	35	36	26-158	3	30	
Hexachloroethane	ug/L	50	16.8	17.6	34	35	30-114	5	30	
Indeno(1,2,3-cd)pyrene	ug/L	50	43.3	40.4	87	81	55-128	7	30	
Isophorone	ug/L	50	18.1	18.7	36	37	31-118	4	30	
N-Nitroso-di-n-propylamine	ug/L	50	18.7	19.5	37	39	32-119	4	30	
N-Nitrosodiphenylamine	ug/L	50	36.7	33.9	73	68	43-120	8	30	
Naphthalene	ug/L	50	18.5	19.2	37	38	32-120	3	30	
Nitrobenzene	ug/L	50	18.2	19.2	36	38	33-110	5	30	
Pentachlorophenol	ug/L	250	65.5	60.1	26	24	10-137	9	30	
Phenanthrene	ug/L	50	36.6	33.8	73	68	57-117	8	30	
Phenol	ug/L	50	9.2J	10J	18	20	10-120		30	
Pyrene	ug/L	50	38.0	35.7	76	71	55-122	6	30	
2,4,6-Tribromophenol (S)	%				75	67	27-110			
2-Fluorobiphenyl (S)	%				45	45	27-110			
2-Fluorophenol (S)	%				22	23	12-110			
Nitrobenzene-d5 (S)	%				36	36	21-110			
Phenol-d6 (S)	%				15	16	10-110			
Terphenyl-d14 (S)	%				73	68	31-107			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			1369939	1369940								
Parameter	Units	92232749005	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.								Result
1,2,4,5-Tetrachlorobenzene	ug/L	ND	100	100	42.9	37.7	43	38	50-150	13	30	M1
2,2'-Oxybis(1-chloropropane)	ug/L	ND	100	100	36.0	30.4	36	30	50-150	17	30	M1
2,3,4,6-Tetrachlorophenol	ug/L	ND	100	100	127	99.0	127	99	50-150	25	30	
2,4,5-Trichlorophenol	ug/L	ND	100	100	58.8	47.6	59	48	19-105	21	30	
2,4,6-Trichlorophenol	ug/L	ND	100	100	47.1	41.9	47	42	13-108	12	30	
2,4-Dichlorophenol	ug/L	ND	100	100	35.4	33.2	35	33	29-111	6	30	
2,4-Dimethylphenol	ug/L	ND	100	100	36.4	33.9	36	34	21-103	7	30	
2,4-Dinitrophenol	ug/L	ND	500	500	253	190	51	38	10-109	29	30	
2,4-Dinitrotoluene	ug/L	ND	100	100	67.5	55.4	67	55	27-104	20	30	
2,6-Dinitrotoluene	ug/L	ND	100	100	70.4	55.3	70	55	28-101	24	30	
2-Chloronaphthalene	ug/L	ND	100	100	49.7	43.5	50	43	14-102	13	30	
2-Chlorophenol	ug/L	ND	100	100	39.3	35.1	39	35	16-110	11	30	
2-Methylnaphthalene	ug/L	42.9	100	100	75.0	65.7	32	23	13-110	13	30	
2-Methylphenol(o-Cresol)	ug/L	ND	100	100	34.2	29.9	34	30	19-110	13	30	
2-Nitroaniline	ug/L	ND	200	200	116	91.5J	58	46	26-103		30	
2-Nitrophenol	ug/L	ND	100	100	36.7	35.2	37	35	20-110	4	30	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	100	100	31.0	28.4	31	28	20-110	9	30	
3,3'-Dichlorobenzidine	ug/L	ND	500	500	123	93.0	25	19	25-112	28	30	M1
3-Nitroaniline	ug/L	ND	200	200	134	104	67	52	29-110	25	30	
4,6-Dinitro-2-methylphenol	ug/L	ND	200	200	129	98.5	64	49	10-117	27	30	
4-Bromophenylphenyl ether	ug/L	ND	100	100	64.6	53.7	65	54	20-105	18	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369939 1369940											
Parameter	Units	92232749005		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
4-Chloro-3-methylphenol	ug/L	ND	200	200	200	94.5	79.0	47	39	22-110	18
4-Chloroaniline	ug/L	ND	200	200	200	75.7	68.4	38	34	20-100	10
4-Chlorophenylphenyl ether	ug/L	ND	100	100	100	58.4	48.8	58	49	19-102	18
4-Nitroaniline	ug/L	ND	200	200	200	142	102	71	51	29-110	33
4-Nitrophenol	ug/L	ND	500	500	500	191	133	38	27	10-110	36
Acenaphthene	ug/L	ND	100	100	100	54.7	45.9	55	46	17-100	18
Acenaphthylene	ug/L	ND	100	100	100	52.6	44.8	53	45	21-100	16
Acetophenone	ug/L	ND	100	100	100	46.5	40.9	46	41	50-150	13
Anthracene	ug/L	ND	100	100	100	70.3	55.4	70	55	24-109	24
Atrazine	ug/L	ND	100	100	100	78.2	56.3	78	56	50-150	33
Benzaldehyde	ug/L	ND	100	100	100	ND	ND	0	0	50-150	30
Benzo(a)anthracene	ug/L	ND	100	100	100	73.2	56.1	73	56	22-117	26
Benzo(a)pyrene	ug/L	ND	100	100	100	77.2	62.5	77	62	23-104	21
Benzo(b)fluoranthene	ug/L	ND	100	100	100	79.6	63.8	80	64	23-103	22
Benzo(g,h,i)perylene	ug/L	ND	100	100	100	74.7	54.6	75	55	18-111	31
Benzo(k)fluoranthene	ug/L	ND	100	100	100	69.7	55.0	70	55	22-113	23
Biphenyl (Diphenyl)	ug/L	3.9J	100	100	100	48.9	41.5	45	38	50-150	16
bis(2-Chloroethoxy)methane	ug/L	ND	100	100	100	46.4	40.3	46	40	22-110	14
bis(2-Chloroethyl) ether	ug/L	ND	100	100	100	43.3	37.1	43	37	16-110	15
bis(2-Ethylhexyl)phthalate	ug/L	ND	100	100	100	75.0	60.4	75	60	23-102	22
Butylbenzylphthalate	ug/L	ND	100	100	100	82.2	64.2	82	64	25-110	24
Caprolactam	ug/L	ND	100	100	100	30.2	27.9	30	28	50-150	8
Carbazole	ug/L	ND	100	100	100	68.7	49.0	69	49	50-150	33
Chrysene	ug/L	ND	100	100	100	75.7	55.9	76	56	23-115	30
Di-n-butylphthalate	ug/L	ND	100	100	100	73.9	57.7	74	58	26-110	25
Di-n-octylphthalate	ug/L	ND	100	100	100	68.3	56.3	68	56	22-110	19
Dibenz(a,h)anthracene	ug/L	ND	100	100	100	74.3	55.0	74	55	21-112	30
Dibenzofuran	ug/L	ND	100	100	100	57.6	47.4	58	47	19-102	20
Diethylphthalate	ug/L	ND	100	100	100	69.9	55.4	70	55	29-110	23
Dimethylphthalate	ug/L	ND	100	100	100	66.0	52.0	66	52	27-110	24
Fluoranthene	ug/L	ND	100	100	100	76.7	54.6	77	55	23-112	34
Fluorene	ug/L	2.0J	100	100	100	67.0	54.1	65	52	22-104	21
Hexachloro-1,3-butadiene	ug/L	ND	100	100	100	34.8	33.8	35	34	10-110	3
Hexachlorobenzene	ug/L	ND	100	100	100	65.9	52.8	66	53	21-116	22
Hexachlorocyclopentadiene	ug/L	ND	100	100	100	37.6	35.5	38	35	10-110	6
Hexachloroethane	ug/L	ND	100	100	100	45.2	40.3	45	40	10-110	12
Indeno(1,2,3-cd)pyrene	ug/L	ND	100	100	100	81.0	59.9	81	60	20-113	30
Isophorone	ug/L	ND	100	100	100	35.1	31.5	35	32	50-150	11
N-Nitroso-di-n-propylamine	ug/L	ND	100	100	100	38.6	32.0	39	32	21-105	18
N-Nitrosodiphenylamine	ug/L	ND	100	100	100	63.4	54.8	63	55	23-107	15
Naphthalene	ug/L	14.1	100	100	100	50.1	45.2	36	31	10-110	10
Nitrobenzene	ug/L	ND	100	100	100	38.0	34.0	38	34	20-110	11
Pentachlorophenol	ug/L	ND	500	500	500	118	88.8	24	18	10-118	28
Phenanthrene	ug/L	3.2J	100	100	100	71.6	56.3	68	53	24-106	24
Phenol	ug/L	ND	100	100	100	25.7	23.6	26	24	12-110	9
Pyrene	ug/L	ND	100	100	100	73.6	60.9	74	61	24-114	19

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369939 1369940												
Parameter	Units	92232749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
2,4,6-Tribromophenol (S)	%						65	54	27-110			
2-Fluorobiphenyl (S)	%						43	38	27-110			
2-Fluorophenol (S)	%						28	26	12-110			
Nitrobenzene-d5 (S)	%						34	32	21-110			
Phenol-d6 (S)	%						21	19	10-110			
Terphenyl-d14 (S)	%						68	57	31-107			

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QUALIFIERS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

IO The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232495

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92232495002	FD-01	EPA 3510	OEXT/32194	EPA 8270	MSSV/10185
92232495003	MW-1	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232495004	MW-4	EPA 3510	OEXT/32194	EPA 8270	MSSV/10185
92232495005	MW-4A	EPA 3510	OEXT/32194	EPA 8270	MSSV/10185
92232495006	MW-6	EPA 3510	OEXT/32194	EPA 8270	MSSV/10185
92232495007	EB-01	EPA 3510	OEXT/32194	EPA 8270	MSSV/10185
92232495001	TB-01	EPA 8260	MSV/29959		
92232495002	FD-01	EPA 8260	MSV/29959		
92232495003	MW-1	EPA 8260	MSV/29967		
92232495004	MW-4	EPA 8260	MSV/29968		
92232495005	MW-4A	EPA 8260	MSV/29967		
92232495006	MW-6	EPA 8260	MSV/29959		
92232495007	EB-01	EPA 8260	MSV/29959		

REPORT OF LABORATORY ANALYSIS

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Document Name: **Sample Condition Upon Receipt (SCUR)**Document No.:
F-ASV-CS-003-rev.14

Document Revised: June 10, 2014

Page 1 of 2

Issuing Authorities:
Pace Asheville Quality OfficeClient Name: AmecCourier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____Custody Seal on Cooler/Box Present: ☒ yes ☒ no ^{11/8/15} Seals intact: ☒ yes ☐ noPacking Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used: IR Gun#3 -130265963

Type of Ice: Wet Blue None☒ Samples on ice, cooling process has begun

IR Gun #4 SN:140290365

Other: _____

Temp Correction Factor: Add / Subtract 0.0 CCorrected Cooler Temp.: 17 C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: RDB 1/8/15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☒ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☒ N/A	11.
Sample Labels match COC:	☐ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WW</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☒ No	
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☒ N/A	16. <u>1/8/15</u>
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: [Signature] Date: 1/8/15
SRF Review: [Signature] Date: 1/8/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92232495



92232495

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Section B

Required Project Information:

Section C

Invoice Information:

Page: 1 of 4

1883643

Company: **FWEC**
Address: **1500 Patton Ave**
Asheville NC 28906
Email To: **Susan.kelly@amerface.com**
Phone: **828.252.8130** Fax:
Requested Due Date/AT: **5/2/12**

Report To: **Susan Kelly**
Copy To:
Purchase Order No.:
Project Name: **CIS of Asheville**
Project Number: **1052120000**

Attention: **Susan Kelly**
Company Name: **FWEC**
Address: **Susan.kelly@amerface.com**
Phone: **828.252.8130**
Reference:
Pace Project Manager: **Kevin Godwin**
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA
Site Location: **NC**
STATE: **NC**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX L CODE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Y/N	Requested Analysis Filtered (Y/N)						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other								
1	TR-01											2																
2	FD-01											2																
3	MW-1											2																
4	MW-4											2																
5	MW-4A											2																
6	MW-6											2																
7	EB-01											2																
8																												
9																												
10																												
11																												
12																												

ORIGINAL

ADDITIONAL COMMENTS: **Level in Report**

RELINQUISHED BY / AFFILIATION: **Kevin Godwin** DATE: **1/6/15** TIME: **12:11** ACCEPTED BY / AFFILIATION: **Kevin Godwin** DATE: **1/6/15** TIME: **12:11**

SAMPLER NAME AND SIGNATURE: **Kevin Godwin**

PRINT Name of SAMPLER: **Kevin Godwin**

SIGNATURE of SAMPLER: **Kevin Godwin**

DATE Signed (MM/DD/YY): **1/6/15**

Temp in °C: **1.7**

Received on Ice (Y/N): **Y**

Custody Sealed Cooler (Y/N): **Y**

Samples Intact (Y/N): **Y**

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

January 28, 2015

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92232749

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised 1/28/15 to update dilution factor for FD-02.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92232749001	TB-02	Water	01/08/15 00:00	01/09/15 13:35
92232749002	FD-02	Water	01/08/15 00:00	01/09/15 13:35
92232749003	MW-6A	Water	01/08/15 14:00	01/09/15 13:35
92232749004	MW-2	Water	01/08/15 15:00	01/09/15 13:35
92232749005	MW-3A	Water	01/08/15 16:15	01/09/15 13:35
92232749006	MW-5	Water	01/09/15 09:40	01/09/15 13:35
92232749007	MW-5A	Water	01/09/15 10:15	01/09/15 13:35
92232749008	MW-7	Water	01/09/15 11:05	01/09/15 13:35
92232749009	MW-7A	Water	01/09/15 11:45	01/09/15 13:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92232749001	TB-02	EPA 8260	CAH	55	PASI-C
92232749002	FD-02	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749003	MW-6A	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749004	MW-2	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749005	MW-3A	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749006	MW-5	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749007	MW-5A	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749008	MW-7	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C
92232749009	MW-7A	EPA 8270	BPJ	73	PASI-C
		EPA 8260	CAH	55	PASI-C

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92232749002	FD-02					
EPA 8260	Trichloroethene	1270	ug/L	12.5	01/15/15 20:33	
92232749003	MW-6A					
EPA 8260	Trichloroethene	62100	ug/L	500	01/14/15 21:07	
92232749004	MW-2					
EPA 8260	Methylcyclohexane	14.7J	ug/L	50.0	01/14/15 21:24	
EPA 8260	Trichloroethene	1240	ug/L	12.5	01/15/15 22:15	
92232749005	MW-3A					
EPA 8270	Biphenyl (Diphenyl)	3.9J	ug/L	10.0	01/15/15 12:30	
EPA 8270	Fluorene	2.0J	ug/L	10.0	01/15/15 12:30	
EPA 8270	2-Methylnaphthalene	42.9	ug/L	10.0	01/15/15 12:30	
EPA 8270	Naphthalene	14.1	ug/L	10.0	01/15/15 12:30	
EPA 8270	Phenanthrene	3.2J	ug/L	10.0	01/15/15 12:30	
EPA 8260	cis-1,2-Dichloroethene	38.3	ug/L	25.0	01/14/15 21:41	
EPA 8260	Methylcyclohexane	64.8J	ug/L	250	01/14/15 21:41	
EPA 8260	1,1,1-Trichloroethane	277	ug/L	25.0	01/14/15 21:41	
EPA 8260	Trichloroethene	6310	ug/L	50.0	01/16/15 13:34	
EPA 8260	o-Xylene	13.1J	ug/L	25.0	01/14/15 21:41	
92232749006	MW-5					
EPA 8260	Trichloroethene	3840	ug/L	25.0	01/14/15 21:58	
92232749007	MW-5A					
EPA 8260	cis-1,2-Dichloroethene	0.33J	ug/L	1.0	01/14/15 23:06	
EPA 8260	Trichloroethene	154	ug/L	1.0	01/14/15 23:06	
EPA 8260	1,1,2-Trichlorotrifluoroethane	0.21J	ug/L	1.0	01/14/15 23:06	
92232749008	MW-7					
EPA 8260	Chloroform	7.2	ug/L	2.0	01/14/15 22:15	
EPA 8260	1,2-Dichloroethane	0.89J	ug/L	2.0	01/14/15 22:15	
EPA 8260	Trichloroethene	195	ug/L	2.0	01/14/15 22:15	
92232749009	MW-7A					
EPA 8270	2-Methylnaphthalene	1.2J	ug/L	10.0	01/15/15 17:20	
EPA 8270	Naphthalene	1.0J	ug/L	10.0	01/15/15 17:20	
EPA 8260	Trichloroethene	52800	ug/L	500	01/14/15 22:32	

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 28, 2015

General Information:

8 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/32253

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1369334)
 - 2-Chlorophenol
 - 2-Methylphenol(o-Cresol)
 - Benzaldehyde
- LCSD (Lab ID: 1369335)
 - Benzaldehyde

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/32253

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232749005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1369939)

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 28, 2015

QC Batch: OEXT/32253

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232749005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Benzaldehyde
- MSD (Lab ID: 1369940)
- Benzaldehyde

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1369939)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - Acetophenone
 - Biphenyl (Diphenyl)
 - Caprolactam
 - Isophorone
- MSD (Lab ID: 1369940)
 - 1,2,4,5-Tetrachlorobenzene
 - 2,2'-Oxybis(1-chloropropane)
 - 3,3'-Dichlorobenzidine
 - Acetophenone
 - Biphenyl (Diphenyl)
 - Caprolactam
 - Carbazole
 - Isophorone

R1: RPD value was outside control limits.

- MSD (Lab ID: 1369940)
 - 4-Nitroaniline
 - 4-Nitrophenol
 - Atrazine
 - Benzo(g,h,i)perylene
 - Carbazole
 - Fluoranthene

Additional Comments:

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 28, 2015

General Information:

9 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/29993

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1370209)
 - 1,4-Dioxane (p-Dioxane)

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1370209)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Methylene Chloride

QC Batch: MSV/30009

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

- LCS (Lab ID: 1371258)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Bromomethane
 - Carbon disulfide

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 28, 2015

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/29993

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92232749005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1370210)
 - 1,1,1-Trichloroethane
 - 1,1,2-Trichlorotrifluoroethane
 - Bromomethane
 - Carbon disulfide
 - Carbon tetrachloride
 - Cyclohexane
 - Methyl acetate
 - Methylene Chloride
 - Trichloroethene
 - Trichlorofluoromethane
 - trans-1,2-Dichloroethene
- MSD (Lab ID: 1370211)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,4-Dioxane (p-Dioxane)
 - Trichloroethene

QC Batch: MSV/30009

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92233149005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1371259)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,4-Dioxane (p-Dioxane)
 - Bromomethane
 - Carbon disulfide
 - Carbon tetrachloride
 - Cyclohexane
 - Methylcyclohexane
 - trans-1,2-Dichloroethene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 28, 2015

Analyte Comments:

QC Batch: MSV/29993

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1370210)
 - Trichloroethene
- MSD (Lab ID: 1370211)
 - Trichloroethene

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: TB-02		Lab ID: 92232749001		Collected: 01/08/15 00:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/14/15 20:16	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/14/15 20:16	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/14/15 20:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/14/15 20:16	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/14/15 20:16	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/14/15 20:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/14/15 20:16	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/14/15 20:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/14/15 20:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/14/15 20:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/14/15 20:16	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		01/14/15 20:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/14/15 20:16	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/14/15 20:16	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/14/15 20:16	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/14/15 20:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/14/15 20:16	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/14/15 20:16	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/14/15 20:16	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/14/15 20:16	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/14/15 20:16	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/14/15 20:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/14/15 20:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/14/15 20:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/14/15 20:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/14/15 20:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/14/15 20:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/14/15 20:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/14/15 20:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/14/15 20:16	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/14/15 20:16	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/14/15 20:16	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/14/15 20:16	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/14/15 20:16	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/14/15 20:16	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/14/15 20:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/14/15 20:16	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/14/15 20:16	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/14/15 20:16	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/14/15 20:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/14/15 20:16	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/14/15 20:16	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/14/15 20:16	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/14/15 20:16	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/14/15 20:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/14/15 20:16	79-00-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: TB-02		Lab ID: 92232749001		Collected: 01/08/15 00:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Trichloroethene	ND	ug/L	1.0	0.47	1		01/14/15 20:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/14/15 20:16	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/14/15 20:16	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/14/15 20:16	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/14/15 20:16	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/14/15 20:16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		1		01/14/15 20:16	460-00-4	
1,2-Dichloroethane-d4 (S)	119 %		70-130		1		01/14/15 20:16	17060-07-0	
Toluene-d8 (S)	98 %		70-130		1		01/14/15 20:16	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: FD-02		Lab ID: 92232749002		Collected: 01/08/15 00:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 20:11	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/14/15 20:11	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/14/15 20:11	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/14/15 20:11	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/14/15 20:11	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/14/15 20:11	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/14/15 20:11	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/14/15 20:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/14/15 20:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/14/15 20:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 20:11	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/14/15 20:11	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/14/15 20:11	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 20:11	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 20:11	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/14/15 20:11	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/14/15 20:11	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/14/15 20:11	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/14/15 20:11	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 20:11	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/14/15 20:11	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/14/15 20:11	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/14/15 20:11	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/14/15 20:11	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/14/15 20:11	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/14/15 20:11	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/14/15 20:11	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/14/15 20:11	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/14/15 20:11	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/14/15 20:11	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/14/15 20:11	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/14/15 20:11	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/14/15 20:11	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/14/15 20:11	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/14/15 20:11	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/14/15 20:11	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/14/15 20:11	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/14/15 20:11	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/14/15 20:11	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/14/15 20:11	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/14/15 20:11	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: FD-02		Lab ID: 92232749002		Collected: 01/08/15 00:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	91-57-6	
2-Methylphenol(o-Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/14/15 20:11		
Naphthalene	ND ug/L		10.0	0.93	1	01/14/15 08:25	01/14/15 20:11	91-20-3	
2-Nitroaniline	ND ug/L		50.0	1.5	1	01/14/15 08:25	01/14/15 20:11	88-74-4	
3-Nitroaniline	ND ug/L		50.0	1.3	1	01/14/15 08:25	01/14/15 20:11	99-09-2	
4-Nitroaniline	ND ug/L		20.0	1.6	1	01/14/15 08:25	01/14/15 20:11	100-01-6	
Nitrobenzene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	98-95-3	
2-Nitrophenol	ND ug/L		10.0	0.71	1	01/14/15 08:25	01/14/15 20:11	88-75-5	
4-Nitrophenol	ND ug/L		50.0	3.9	1	01/14/15 08:25	01/14/15 20:11	100-02-7	
N-Nitroso-di-n-propylamine	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/14/15 20:11	621-64-7	
N-Nitrosodiphenylamine	ND ug/L		10.0	0.64	1	01/14/15 08:25	01/14/15 20:11	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND ug/L		10.0	0.56	1	01/14/15 08:25	01/14/15 20:11	108-60-1	
Pentachlorophenol	ND ug/L		25.0	1.2	1	01/14/15 08:25	01/14/15 20:11	87-86-5	
Phenanthrene	ND ug/L		10.0	0.53	1	01/14/15 08:25	01/14/15 20:11	85-01-8	
Phenol	ND ug/L		10.0	1.1	1	01/14/15 08:25	01/14/15 20:11	108-95-2	
Pyrene	ND ug/L		10.0	0.49	1	01/14/15 08:25	01/14/15 20:11	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND ug/L		10.0	1.3	1	01/14/15 08:25	01/14/15 20:11	95-94-3	
2,3,4,6-Tetrachlorophenol	ND ug/L		10.0	1.6	1	01/14/15 08:25	01/14/15 20:11	58-90-2	
2,4,5-Trichlorophenol	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/14/15 20:11	95-95-4	
2,4,6-Trichlorophenol	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/14/15 20:11	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	41 %		21-110		1	01/14/15 08:25	01/14/15 20:11	4165-60-0	
2-Fluorobiphenyl (S)	41 %		27-110		1	01/14/15 08:25	01/14/15 20:11	321-60-8	
Terphenyl-d14 (S)	56 %		31-107		1	01/14/15 08:25	01/14/15 20:11	1718-51-0	
Phenol-d6 (S)	12 %		10-110		1	01/14/15 08:25	01/14/15 20:11	13127-88-3	
2-Fluorophenol (S)	21 %		12-110		1	01/14/15 08:25	01/14/15 20:11	367-12-4	
2,4,6-Tribromophenol (S)	45 %		27-110		1	01/14/15 08:25	01/14/15 20:11	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND ug/L		312	125	12.5		01/15/15 20:33	67-64-1	
Benzene	ND ug/L		12.5	3.1	12.5		01/15/15 20:33	71-43-2	
Bromochloromethane	ND ug/L		12.5	2.1	12.5		01/15/15 20:33	74-97-5	
Bromodichloromethane	ND ug/L		12.5	2.2	12.5		01/15/15 20:33	75-27-4	
Bromoform	ND ug/L		12.5	3.2	12.5		01/15/15 20:33	75-25-2	
Bromomethane	ND ug/L		25.0	3.6	12.5		01/15/15 20:33	74-83-9	
2-Butanone (MEK)	ND ug/L		62.5	12.0	12.5		01/15/15 20:33	78-93-3	
Carbon disulfide	ND ug/L		25.0	14.4	12.5		01/15/15 20:33	75-15-0	
Carbon tetrachloride	ND ug/L		12.5	3.1	12.5		01/15/15 20:33	56-23-5	
Chlorobenzene	ND ug/L		12.5	2.9	12.5		01/15/15 20:33	108-90-7	
Chloroethane	ND ug/L		12.5	6.8	12.5		01/15/15 20:33	75-00-3	
Chloroform	ND ug/L		12.5	1.8	12.5		01/15/15 20:33	67-66-3	
Chloromethane	ND ug/L		12.5	1.4	12.5		01/15/15 20:33	74-87-3	
Cyclohexane	ND ug/L		12.5	4.5	12.5		01/15/15 20:33	110-82-7	
1,2-Dibromo-3-chloropropane	ND ug/L		25.0	25.0	12.5		01/15/15 20:33	96-12-8	
Dibromochloromethane	ND ug/L		12.5	2.6	12.5		01/15/15 20:33	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: FD-02		Lab ID: 92232749002		Collected: 01/08/15 00:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	12.5	3.4	12.5		01/15/15 20:33	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	12.5	3.8	12.5		01/15/15 20:33	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	12.5	3.0	12.5		01/15/15 20:33	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	12.5	4.1	12.5		01/15/15 20:33	106-46-7	
Dichlorodifluoromethane	ND	ug/L	12.5	2.6	12.5		01/15/15 20:33	75-71-8	
1,1-Dichloroethane	ND	ug/L	12.5	4.0	12.5		01/15/15 20:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	12.5	1.5	12.5		01/15/15 20:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	12.5	7.0	12.5		01/15/15 20:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	12.5	2.4	12.5		01/15/15 20:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	12.5	6.1	12.5		01/15/15 20:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	12.5	3.4	12.5		01/15/15 20:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	12.5	1.6	12.5		01/15/15 20:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	12.5	3.2	12.5		01/15/15 20:33	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	1880	980	12.5		01/15/15 20:33	123-91-1	
Ethylbenzene	ND	ug/L	12.5	3.8	12.5		01/15/15 20:33	100-41-4	
2-Hexanone	ND	ug/L	62.5	5.8	12.5		01/15/15 20:33	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	12.5	5.0	12.5		01/15/15 20:33	98-82-8	
Methyl acetate	ND	ug/L	125	10.2	12.5		01/15/15 20:33	79-20-9	
Methylcyclohexane	ND	ug/L	125	23.4	12.5		01/15/15 20:33	108-87-2	
Methylene Chloride	ND	ug/L	25.0	12.1	12.5		01/15/15 20:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	62.5	4.1	12.5		01/15/15 20:33	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	12.5	2.6	12.5		01/15/15 20:33	1634-04-4	
Styrene	ND	ug/L	12.5	3.2	12.5		01/15/15 20:33	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	12.5	5.0	12.5		01/15/15 20:33	79-34-5	
Tetrachloroethene	ND	ug/L	12.5	5.8	12.5		01/15/15 20:33	127-18-4	
Toluene	ND	ug/L	12.5	3.2	12.5		01/15/15 20:33	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	12.5	4.1	12.5		01/15/15 20:33	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	12.5	4.4	12.5		01/15/15 20:33	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	12.5	6.0	12.5		01/15/15 20:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	12.5	3.6	12.5		01/15/15 20:33	79-00-5	
Trichloroethene	1270	ug/L	12.5	5.9	12.5		01/15/15 20:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	12.5	2.5	12.5		01/15/15 20:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	12.5	2.4	12.5		01/15/15 20:33	76-13-1	
Vinyl chloride	ND	ug/L	12.5	7.8	12.5		01/15/15 20:33	75-01-4	
m&p-Xylene	ND	ug/L	25.0	8.2	12.5		01/15/15 20:33	179601-23-1	
o-Xylene	ND	ug/L	12.5	2.9	12.5		01/15/15 20:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		12.5		01/15/15 20:33	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		12.5		01/15/15 20:33	17060-07-0	
Toluene-d8 (S)	98	%	70-130		12.5		01/15/15 20:33	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-6A		Lab ID: 92232749003	Collected: 01/08/15 14:00	Received: 01/09/15 13:35	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:19	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 14:19	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 14:19	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 14:19	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 14:19	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 14:19	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 14:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 14:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 14:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 14:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:19	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 14:19	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 14:19	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:19	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:19	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 14:19	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 14:19	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 14:19	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 14:19	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:19	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 14:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 14:19	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 14:19	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 14:19	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 14:19	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 14:19	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 14:19	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 14:19	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 14:19	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 14:19	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 14:19	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 14:19	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 14:19	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 14:19	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 14:19	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 14:19	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 14:19	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:19	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 14:19	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:19	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 14:19	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-6A		Lab ID: 92232749003		Collected: 01/08/15 14:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	91-57-6	
2-Methylphenol(o-Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 14:19		
Naphthalene	ND ug/L		10.0	0.93	1	01/14/15 08:25	01/15/15 14:19	91-20-3	
2-Nitroaniline	ND ug/L		50.0	1.5	1	01/14/15 08:25	01/15/15 14:19	88-74-4	
3-Nitroaniline	ND ug/L		50.0	1.3	1	01/14/15 08:25	01/15/15 14:19	99-09-2	
4-Nitroaniline	ND ug/L		20.0	1.6	1	01/14/15 08:25	01/15/15 14:19	100-01-6	
Nitrobenzene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	98-95-3	
2-Nitrophenol	ND ug/L		10.0	0.71	1	01/14/15 08:25	01/15/15 14:19	88-75-5	
4-Nitrophenol	ND ug/L		50.0	3.9	1	01/14/15 08:25	01/15/15 14:19	100-02-7	
N-Nitroso-di-n-propylamine	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 14:19	621-64-7	
N-Nitrosodiphenylamine	ND ug/L		10.0	0.64	1	01/14/15 08:25	01/15/15 14:19	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND ug/L		10.0	0.56	1	01/14/15 08:25	01/15/15 14:19	108-60-1	
Pentachlorophenol	ND ug/L		25.0	1.2	1	01/14/15 08:25	01/15/15 14:19	87-86-5	
Phenanthrene	ND ug/L		10.0	0.53	1	01/14/15 08:25	01/15/15 14:19	85-01-8	
Phenol	ND ug/L		10.0	1.1	1	01/14/15 08:25	01/15/15 14:19	108-95-2	
Pyrene	ND ug/L		10.0	0.49	1	01/14/15 08:25	01/15/15 14:19	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND ug/L		10.0	1.3	1	01/14/15 08:25	01/15/15 14:19	95-94-3	
2,3,4,6-Tetrachlorophenol	ND ug/L		10.0	1.6	1	01/14/15 08:25	01/15/15 14:19	58-90-2	
2,4,5-Trichlorophenol	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 14:19	95-95-4	
2,4,6-Trichlorophenol	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 14:19	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	39 %		21-110		1	01/14/15 08:25	01/15/15 14:19	4165-60-0	
2-Fluorobiphenyl (S)	39 %		27-110		1	01/14/15 08:25	01/15/15 14:19	321-60-8	
Terphenyl-d14 (S)	56 %		31-107		1	01/14/15 08:25	01/15/15 14:19	1718-51-0	
Phenol-d6 (S)	13 %		10-110		1	01/14/15 08:25	01/15/15 14:19	13127-88-3	
2-Fluorophenol (S)	21 %		12-110		1	01/14/15 08:25	01/15/15 14:19	367-12-4	
2,4,6-Tribromophenol (S)	49 %		27-110		1	01/14/15 08:25	01/15/15 14:19	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND ug/L		12500	5000	500		01/14/15 21:07	67-64-1	
Benzene	ND ug/L		500	125	500		01/14/15 21:07	71-43-2	
Bromochloromethane	ND ug/L		500	85.0	500		01/14/15 21:07	74-97-5	
Bromodichloromethane	ND ug/L		500	90.0	500		01/14/15 21:07	75-27-4	
Bromoform	ND ug/L		500	130	500		01/14/15 21:07	75-25-2	
Bromomethane	ND ug/L		1000	145	500		01/14/15 21:07	74-83-9	
2-Butanone (MEK)	ND ug/L		2500	480	500		01/14/15 21:07	78-93-3	
Carbon disulfide	ND ug/L		1000	575	500		01/14/15 21:07	75-15-0	
Carbon tetrachloride	ND ug/L		500	125	500		01/14/15 21:07	56-23-5	
Chlorobenzene	ND ug/L		500	115	500		01/14/15 21:07	108-90-7	
Chloroethane	ND ug/L		500	270	500		01/14/15 21:07	75-00-3	
Chloroform	ND ug/L		500	70.0	500		01/14/15 21:07	67-66-3	
Chloromethane	ND ug/L		500	55.0	500		01/14/15 21:07	74-87-3	
Cyclohexane	ND ug/L		500	180	500		01/14/15 21:07	110-82-7	
1,2-Dibromo-3-chloropropane	ND ug/L		1000	1000	500		01/14/15 21:07	96-12-8	
Dibromochloromethane	ND ug/L		500	105	500		01/14/15 21:07	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-6A		Lab ID: 92232749003		Collected: 01/08/15 14:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	500	135	500		01/14/15 21:07	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	500	150	500		01/14/15 21:07	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	500	120	500		01/14/15 21:07	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	500	165	500		01/14/15 21:07	106-46-7	
Dichlorodifluoromethane	ND	ug/L	500	105	500		01/14/15 21:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	500	160	500		01/14/15 21:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	500	60.0	500		01/14/15 21:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	500	280	500		01/14/15 21:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	500	95.0	500		01/14/15 21:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500	245	500		01/14/15 21:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	500	135	500		01/14/15 21:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	500	65.0	500		01/14/15 21:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	500	130	500		01/14/15 21:07	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	75000	39200	500		01/14/15 21:07	123-91-1	
Ethylbenzene	ND	ug/L	500	150	500		01/14/15 21:07	100-41-4	
2-Hexanone	ND	ug/L	2500	230	500		01/14/15 21:07	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	500	200	500		01/14/15 21:07	98-82-8	
Methyl acetate	ND	ug/L	5000	410	500		01/14/15 21:07	79-20-9	
Methylcyclohexane	ND	ug/L	5000	935	500		01/14/15 21:07	108-87-2	
Methylene Chloride	ND	ug/L	1000	485	500		01/14/15 21:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	165	500		01/14/15 21:07	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	500	105	500		01/14/15 21:07	1634-04-4	
Styrene	ND	ug/L	500	130	500		01/14/15 21:07	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	500	200	500		01/14/15 21:07	79-34-5	
Tetrachloroethene	ND	ug/L	500	230	500		01/14/15 21:07	127-18-4	
Toluene	ND	ug/L	500	130	500		01/14/15 21:07	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	500	165	500		01/14/15 21:07	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	500	175	500		01/14/15 21:07	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	500	240	500		01/14/15 21:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	145	500		01/14/15 21:07	79-00-5	
Trichloroethene	62100	ug/L	500	235	500		01/14/15 21:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	500	100	500		01/14/15 21:07	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	500	95.0	500		01/14/15 21:07	76-13-1	
Vinyl chloride	ND	ug/L	500	310	500		01/14/15 21:07	75-01-4	
m&p-Xylene	ND	ug/L	1000	330	500		01/14/15 21:07	179601-23-1	
o-Xylene	ND	ug/L	500	115	500		01/14/15 21:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		500		01/14/15 21:07	460-00-4	
1,2-Dichloroethane-d4 (S)	119 %		70-130		500		01/14/15 21:07	17060-07-0	
Toluene-d8 (S)	98 %		70-130		500		01/14/15 21:07	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-2		Lab ID: 92232749004		Collected: 01/08/15 15:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:55	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 14:55	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 14:55	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 14:55	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 14:55	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 14:55	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 14:55	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 14:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 14:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 14:55	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:55	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 14:55	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 14:55	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:55	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:55	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 14:55	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 14:55	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 14:55	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 14:55	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:55	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 14:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 14:55	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 14:55	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 14:55	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 14:55	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 14:55	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 14:55	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 14:55	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 14:55	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 14:55	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 14:55	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 14:55	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 14:55	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 14:55	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 14:55	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 14:55	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 14:55	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:55	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 14:55	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:55	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 14:55	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-2		Lab ID: 92232749004		Collected: 01/08/15 15:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55		
Naphthalene	ND	ug/L	10.0	0.93	1	01/14/15 08:25	01/15/15 14:55	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/14/15 08:25	01/15/15 14:55	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/14/15 08:25	01/15/15 14:55	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 14:55	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/14/15 08:25	01/15/15 14:55	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/14/15 08:25	01/15/15 14:55	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 14:55	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/14/15 08:25	01/15/15 14:55	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/14/15 08:25	01/15/15 14:55	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/14/15 08:25	01/15/15 14:55	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 14:55	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 14:55	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 14:55	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 14:55	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/14/15 08:25	01/15/15 14:55	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 14:55	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 14:55	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	46 %		21-110		1	01/14/15 08:25	01/15/15 14:55	4165-60-0	
2-Fluorobiphenyl (S)	48 %		27-110		1	01/14/15 08:25	01/15/15 14:55	321-60-8	
Terphenyl-d14 (S)	61 %		31-107		1	01/14/15 08:25	01/15/15 14:55	1718-51-0	
Phenol-d6 (S)	16 %		10-110		1	01/14/15 08:25	01/15/15 14:55	13127-88-3	
2-Fluorophenol (S)	25 %		12-110		1	01/14/15 08:25	01/15/15 14:55	367-12-4	
2,4,6-Tribromophenol (S)	50 %		27-110		1	01/14/15 08:25	01/15/15 14:55	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	125	50.0	5		01/14/15 21:24	67-64-1	
Benzene	ND	ug/L	5.0	1.2	5		01/14/15 21:24	71-43-2	
Bromochloromethane	ND	ug/L	5.0	0.85	5		01/14/15 21:24	74-97-5	
Bromodichloromethane	ND	ug/L	5.0	0.90	5		01/14/15 21:24	75-27-4	
Bromoform	ND	ug/L	5.0	1.3	5		01/14/15 21:24	75-25-2	
Bromomethane	ND	ug/L	10.0	1.4	5		01/14/15 21:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	4.8	5		01/14/15 21:24	78-93-3	
Carbon disulfide	ND	ug/L	10.0	5.8	5		01/14/15 21:24	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1.2	5		01/14/15 21:24	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1.2	5		01/14/15 21:24	108-90-7	
Chloroethane	ND	ug/L	5.0	2.7	5		01/14/15 21:24	75-00-3	
Chloroform	ND	ug/L	5.0	0.70	5		01/14/15 21:24	67-66-3	
Chloromethane	ND	ug/L	5.0	0.55	5		01/14/15 21:24	74-87-3	
Cyclohexane	ND	ug/L	5.0	1.8	5		01/14/15 21:24	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	10.0	10.0	5		01/14/15 21:24	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1.0	5		01/14/15 21:24	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-2		Lab ID: 92232749004		Collected: 01/08/15 15:00		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1.4	5		01/14/15 21:24	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	5		01/14/15 21:24	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1.2	5		01/14/15 21:24	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1.6	5		01/14/15 21:24	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1.0	5		01/14/15 21:24	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1.6	5		01/14/15 21:24	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	0.60	5		01/14/15 21:24	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	2.8	5		01/14/15 21:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.95	5		01/14/15 21:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	2.4	5		01/14/15 21:24	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1.4	5		01/14/15 21:24	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	0.65	5		01/14/15 21:24	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1.3	5		01/14/15 21:24	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	750	392	5		01/14/15 21:24	123-91-1	
Ethylbenzene	ND	ug/L	5.0	1.5	5		01/14/15 21:24	100-41-4	
2-Hexanone	ND	ug/L	25.0	2.3	5		01/14/15 21:24	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	2.0	5		01/14/15 21:24	98-82-8	
Methyl acetate	ND	ug/L	50.0	4.1	5		01/14/15 21:24	79-20-9	
Methylcyclohexane	14.7J	ug/L	50.0	9.4	5		01/14/15 21:24	108-87-2	
Methylene Chloride	ND	ug/L	10.0	4.8	5		01/14/15 21:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1.6	5		01/14/15 21:24	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.0	5		01/14/15 21:24	1634-04-4	
Styrene	ND	ug/L	5.0	1.3	5		01/14/15 21:24	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	2.0	5		01/14/15 21:24	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	2.3	5		01/14/15 21:24	127-18-4	
Toluene	ND	ug/L	5.0	1.3	5		01/14/15 21:24	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	1.6	5		01/14/15 21:24	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1.8	5		01/14/15 21:24	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	2.4	5		01/14/15 21:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1.4	5		01/14/15 21:24	79-00-5	
Trichloroethene	1240	ug/L	12.5	5.9	12.5		01/15/15 22:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1.0	5		01/14/15 21:24	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	0.95	5		01/14/15 21:24	76-13-1	
Vinyl chloride	ND	ug/L	5.0	3.1	5		01/14/15 21:24	75-01-4	
m&p-Xylene	ND	ug/L	10.0	3.3	5		01/14/15 21:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.2	5		01/14/15 21:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		5		01/14/15 21:24	460-00-4	
1,2-Dichloroethane-d4 (S)	120 %		70-130		5		01/14/15 21:24	17060-07-0	
Toluene-d8 (S)	100 %		70-130		5		01/14/15 21:24	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-3A		Lab ID: 92232749005		Collected: 01/08/15 16:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 12:30	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 12:30	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 12:30	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 12:30	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 12:30	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 12:30	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 12:30	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 12:30	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 12:30	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 12:30	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 12:30	207-08-9	
Biphenyl (Diphenyl)	3.9J	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 12:30	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 12:30	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 12:30	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 12:30	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 12:30	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 12:30	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 12:30	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 12:30	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 12:30	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 12:30	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 12:30	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 12:30	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 12:30	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 12:30	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 12:30	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 12:30	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 12:30	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 12:30	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 12:30	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 12:30	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 12:30	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 12:30	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 12:30	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 12:30	206-44-0	
Fluorene	2.0J	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 12:30	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 12:30	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 12:30	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 12:30	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 12:30	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 12:30	78-59-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-3A		Lab ID: 92232749005		Collected: 01/08/15 16:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	42.9	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30		
Naphthalene	14.1	ug/L	10.0	0.93	1	01/14/15 08:25	01/15/15 12:30	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/14/15 08:25	01/15/15 12:30	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/14/15 08:25	01/15/15 12:30	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 12:30	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/14/15 08:25	01/15/15 12:30	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/14/15 08:25	01/15/15 12:30	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 12:30	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/14/15 08:25	01/15/15 12:30	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/14/15 08:25	01/15/15 12:30	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/14/15 08:25	01/15/15 12:30	87-86-5	
Phenanthrene	3.2J	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 12:30	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 12:30	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 12:30	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 12:30	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/14/15 08:25	01/15/15 12:30	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 12:30	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 12:30	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	43	%	21-110		1	01/14/15 08:25	01/15/15 12:30	4165-60-0	
2-Fluorobiphenyl (S)	45	%	27-110		1	01/14/15 08:25	01/15/15 12:30	321-60-8	
Terphenyl-d14 (S)	57	%	31-107		1	01/14/15 08:25	01/15/15 12:30	1718-51-0	
Phenol-d6 (S)	14	%	10-110		1	01/14/15 08:25	01/15/15 12:30	13127-88-3	
2-Fluorophenol (S)	23	%	12-110		1	01/14/15 08:25	01/15/15 12:30	367-12-4	
2,4,6-Tribromophenol (S)	57	%	27-110		1	01/14/15 08:25	01/15/15 12:30	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	625	250	25		01/14/15 21:41	67-64-1	
Benzene	ND	ug/L	25.0	6.2	25		01/14/15 21:41	71-43-2	
Bromochloromethane	ND	ug/L	25.0	4.2	25		01/14/15 21:41	74-97-5	
Bromodichloromethane	ND	ug/L	25.0	4.5	25		01/14/15 21:41	75-27-4	
Bromoform	ND	ug/L	25.0	6.5	25		01/14/15 21:41	75-25-2	
Bromomethane	ND	ug/L	50.0	7.2	25		01/14/15 21:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	125	24.0	25		01/14/15 21:41	78-93-3	
Carbon disulfide	ND	ug/L	50.0	28.8	25		01/14/15 21:41	75-15-0	
Carbon tetrachloride	ND	ug/L	25.0	6.2	25		01/14/15 21:41	56-23-5	
Chlorobenzene	ND	ug/L	25.0	5.8	25		01/14/15 21:41	108-90-7	
Chloroethane	ND	ug/L	25.0	13.5	25		01/14/15 21:41	75-00-3	
Chloroform	ND	ug/L	25.0	3.5	25		01/14/15 21:41	67-66-3	
Chloromethane	ND	ug/L	25.0	2.8	25		01/14/15 21:41	74-87-3	
Cyclohexane	ND	ug/L	25.0	9.0	25		01/14/15 21:41	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	50.0	50.0	25		01/14/15 21:41	96-12-8	
Dibromochloromethane	ND	ug/L	25.0	5.2	25		01/14/15 21:41	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-3A		Lab ID: 92232749005		Collected: 01/08/15 16:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	25.0	6.8	25		01/14/15 21:41	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	25.0	7.5	25		01/14/15 21:41	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	25.0	6.0	25		01/14/15 21:41	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	25.0	8.2	25		01/14/15 21:41	106-46-7	
Dichlorodifluoromethane	ND	ug/L	25.0	5.2	25		01/14/15 21:41	75-71-8	
1,1-Dichloroethane	ND	ug/L	25.0	8.0	25		01/14/15 21:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	25.0	3.0	25		01/14/15 21:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	25.0	14.0	25		01/14/15 21:41	75-35-4	
cis-1,2-Dichloroethene	38.3	ug/L	25.0	4.8	25		01/14/15 21:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	25.0	12.2	25		01/14/15 21:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	25.0	6.8	25		01/14/15 21:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	25.0	3.2	25		01/14/15 21:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	25.0	6.5	25		01/14/15 21:41	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	3750	1960	25		01/14/15 21:41	123-91-1	
Ethylbenzene	ND	ug/L	25.0	7.5	25		01/14/15 21:41	100-41-4	
2-Hexanone	ND	ug/L	125	11.5	25		01/14/15 21:41	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	25.0	10.0	25		01/14/15 21:41	98-82-8	
Methyl acetate	ND	ug/L	250	20.5	25		01/14/15 21:41	79-20-9	
Methylcyclohexane	64.8J	ug/L	250	46.8	25		01/14/15 21:41	108-87-2	
Methylene Chloride	ND	ug/L	50.0	24.2	25		01/14/15 21:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	125	8.2	25		01/14/15 21:41	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	25.0	5.2	25		01/14/15 21:41	1634-04-4	
Styrene	ND	ug/L	25.0	6.5	25		01/14/15 21:41	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	10.0	25		01/14/15 21:41	79-34-5	
Tetrachloroethene	ND	ug/L	25.0	11.5	25		01/14/15 21:41	127-18-4	
Toluene	ND	ug/L	25.0	6.5	25		01/14/15 21:41	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	25.0	8.2	25		01/14/15 21:41	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	25.0	8.8	25		01/14/15 21:41	120-82-1	
1,1,1-Trichloroethane	277	ug/L	25.0	12.0	25		01/14/15 21:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	25.0	7.2	25		01/14/15 21:41	79-00-5	
Trichloroethene	6310	ug/L	50.0	23.5	50		01/16/15 13:34	79-01-6	
Trichlorofluoromethane	ND	ug/L	25.0	5.0	25		01/14/15 21:41	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	25.0	4.8	25		01/14/15 21:41	76-13-1	
Vinyl chloride	ND	ug/L	25.0	15.5	25		01/14/15 21:41	75-01-4	
m&p-Xylene	ND	ug/L	50.0	16.5	25		01/14/15 21:41	179601-23-1	
o-Xylene	13.1J	ug/L	25.0	5.8	25		01/14/15 21:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95 %		70-130		25		01/14/15 21:41	460-00-4	
1,2-Dichloroethane-d4 (S)	122 %		70-130		25		01/14/15 21:41	17060-07-0	
Toluene-d8 (S)	97 %		70-130		25		01/14/15 21:41	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5		Lab ID: 92232749006		Collected: 01/09/15 09:40		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 15:31	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 15:31	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 15:31	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 15:31	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 15:31	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 15:31	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 15:31	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 15:31	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 15:31	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 15:31	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 15:31	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 15:31	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 15:31	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 15:31	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 15:31	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 15:31	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 15:31	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 15:31	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 15:31	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 15:31	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 15:31	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 15:31	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 15:31	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 15:31	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 15:31	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 15:31	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 15:31	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 15:31	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 15:31	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 15:31	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 15:31	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 15:31	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 15:31	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 15:31	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 15:31	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 15:31	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 15:31	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 15:31	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 15:31	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 15:31	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 15:31	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5		Lab ID: 92232749006		Collected: 01/09/15 09:40		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	91-57-6	
2-Methylphenol(o-Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 15:31		
Naphthalene	ND ug/L		10.0	0.93	1	01/14/15 08:25	01/15/15 15:31	91-20-3	
2-Nitroaniline	ND ug/L		50.0	1.5	1	01/14/15 08:25	01/15/15 15:31	88-74-4	
3-Nitroaniline	ND ug/L		50.0	1.3	1	01/14/15 08:25	01/15/15 15:31	99-09-2	
4-Nitroaniline	ND ug/L		20.0	1.6	1	01/14/15 08:25	01/15/15 15:31	100-01-6	
Nitrobenzene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	98-95-3	
2-Nitrophenol	ND ug/L		10.0	0.71	1	01/14/15 08:25	01/15/15 15:31	88-75-5	
4-Nitrophenol	ND ug/L		50.0	3.9	1	01/14/15 08:25	01/15/15 15:31	100-02-7	
N-Nitroso-di-n-propylamine	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 15:31	621-64-7	
N-Nitrosodiphenylamine	ND ug/L		10.0	0.64	1	01/14/15 08:25	01/15/15 15:31	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND ug/L		10.0	0.56	1	01/14/15 08:25	01/15/15 15:31	108-60-1	
Pentachlorophenol	ND ug/L		25.0	1.2	1	01/14/15 08:25	01/15/15 15:31	87-86-5	
Phenanthrene	ND ug/L		10.0	0.53	1	01/14/15 08:25	01/15/15 15:31	85-01-8	
Phenol	ND ug/L		10.0	1.1	1	01/14/15 08:25	01/15/15 15:31	108-95-2	
Pyrene	ND ug/L		10.0	0.49	1	01/14/15 08:25	01/15/15 15:31	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND ug/L		10.0	1.3	1	01/14/15 08:25	01/15/15 15:31	95-94-3	
2,3,4,6-Tetrachlorophenol	ND ug/L		10.0	1.6	1	01/14/15 08:25	01/15/15 15:31	58-90-2	
2,4,5-Trichlorophenol	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 15:31	95-95-4	
2,4,6-Trichlorophenol	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 15:31	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	34 %		21-110		1	01/14/15 08:25	01/15/15 15:31	4165-60-0	
2-Fluorobiphenyl (S)	36 %		27-110		1	01/14/15 08:25	01/15/15 15:31	321-60-8	
Terphenyl-d14 (S)	46 %		31-107		1	01/14/15 08:25	01/15/15 15:31	1718-51-0	
Phenol-d6 (S)	12 %		10-110		1	01/14/15 08:25	01/15/15 15:31	13127-88-3	
2-Fluorophenol (S)	19 %		12-110		1	01/14/15 08:25	01/15/15 15:31	367-12-4	
2,4,6-Tribromophenol (S)	34 %		27-110		1	01/14/15 08:25	01/15/15 15:31	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND ug/L		625	250	25		01/14/15 21:58	67-64-1	
Benzene	ND ug/L		25.0	6.2	25		01/14/15 21:58	71-43-2	
Bromochloromethane	ND ug/L		25.0	4.2	25		01/14/15 21:58	74-97-5	
Bromodichloromethane	ND ug/L		25.0	4.5	25		01/14/15 21:58	75-27-4	
Bromoform	ND ug/L		25.0	6.5	25		01/14/15 21:58	75-25-2	
Bromomethane	ND ug/L		50.0	7.2	25		01/14/15 21:58	74-83-9	
2-Butanone (MEK)	ND ug/L		125	24.0	25		01/14/15 21:58	78-93-3	
Carbon disulfide	ND ug/L		50.0	28.8	25		01/14/15 21:58	75-15-0	
Carbon tetrachloride	ND ug/L		25.0	6.2	25		01/14/15 21:58	56-23-5	
Chlorobenzene	ND ug/L		25.0	5.8	25		01/14/15 21:58	108-90-7	
Chloroethane	ND ug/L		25.0	13.5	25		01/14/15 21:58	75-00-3	
Chloroform	ND ug/L		25.0	3.5	25		01/14/15 21:58	67-66-3	
Chloromethane	ND ug/L		25.0	2.8	25		01/14/15 21:58	74-87-3	
Cyclohexane	ND ug/L		25.0	9.0	25		01/14/15 21:58	110-82-7	
1,2-Dibromo-3-chloropropane	ND ug/L		50.0	50.0	25		01/14/15 21:58	96-12-8	
Dibromochloromethane	ND ug/L		25.0	5.2	25		01/14/15 21:58	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5		Lab ID: 92232749006		Collected: 01/09/15 09:40		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	25.0	6.8	25		01/14/15 21:58	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	25.0	7.5	25		01/14/15 21:58	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	25.0	6.0	25		01/14/15 21:58	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	25.0	8.2	25		01/14/15 21:58	106-46-7	
Dichlorodifluoromethane	ND	ug/L	25.0	5.2	25		01/14/15 21:58	75-71-8	
1,1-Dichloroethane	ND	ug/L	25.0	8.0	25		01/14/15 21:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	25.0	3.0	25		01/14/15 21:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	25.0	14.0	25		01/14/15 21:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	25.0	4.8	25		01/14/15 21:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	25.0	12.2	25		01/14/15 21:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	25.0	6.8	25		01/14/15 21:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	25.0	3.2	25		01/14/15 21:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	25.0	6.5	25		01/14/15 21:58	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	3750	1960	25		01/14/15 21:58	123-91-1	
Ethylbenzene	ND	ug/L	25.0	7.5	25		01/14/15 21:58	100-41-4	
2-Hexanone	ND	ug/L	125	11.5	25		01/14/15 21:58	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	25.0	10.0	25		01/14/15 21:58	98-82-8	
Methyl acetate	ND	ug/L	250	20.5	25		01/14/15 21:58	79-20-9	
Methylcyclohexane	ND	ug/L	250	46.8	25		01/14/15 21:58	108-87-2	
Methylene Chloride	ND	ug/L	50.0	24.2	25		01/14/15 21:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	125	8.2	25		01/14/15 21:58	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	25.0	5.2	25		01/14/15 21:58	1634-04-4	
Styrene	ND	ug/L	25.0	6.5	25		01/14/15 21:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	10.0	25		01/14/15 21:58	79-34-5	
Tetrachloroethene	ND	ug/L	25.0	11.5	25		01/14/15 21:58	127-18-4	
Toluene	ND	ug/L	25.0	6.5	25		01/14/15 21:58	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	25.0	8.2	25		01/14/15 21:58	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	25.0	8.8	25		01/14/15 21:58	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	25.0	12.0	25		01/14/15 21:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	25.0	7.2	25		01/14/15 21:58	79-00-5	
Trichloroethene	3840	ug/L	25.0	11.8	25		01/14/15 21:58	79-01-6	
Trichlorofluoromethane	ND	ug/L	25.0	5.0	25		01/14/15 21:58	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	25.0	4.8	25		01/14/15 21:58	76-13-1	
Vinyl chloride	ND	ug/L	25.0	15.5	25		01/14/15 21:58	75-01-4	
m&p-Xylene	ND	ug/L	50.0	16.5	25		01/14/15 21:58	179601-23-1	
o-Xylene	ND	ug/L	25.0	5.8	25		01/14/15 21:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		25		01/14/15 21:58	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		25		01/14/15 21:58	17060-07-0	
Toluene-d8 (S)	98	%	70-130		25		01/14/15 21:58	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5A		Lab ID: 92232749007		Collected: 01/09/15 10:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:08	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 16:08	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 16:08	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 16:08	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 16:08	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 16:08	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 16:08	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 16:08	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 16:08	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 16:08	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:08	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 16:08	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 16:08	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:08	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:08	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 16:08	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 16:08	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 16:08	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 16:08	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:08	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 16:08	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 16:08	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 16:08	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 16:08	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 16:08	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 16:08	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 16:08	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 16:08	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 16:08	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 16:08	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 16:08	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 16:08	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 16:08	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 16:08	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 16:08	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 16:08	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 16:08	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:08	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 16:08	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:08	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 16:08	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5A		Lab ID: 92232749007		Collected: 01/09/15 10:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	91-57-6	
2-Methylphenol(o-Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 16:08		
Naphthalene	ND ug/L		10.0	0.93	1	01/14/15 08:25	01/15/15 16:08	91-20-3	
2-Nitroaniline	ND ug/L		50.0	1.5	1	01/14/15 08:25	01/15/15 16:08	88-74-4	
3-Nitroaniline	ND ug/L		50.0	1.3	1	01/14/15 08:25	01/15/15 16:08	99-09-2	
4-Nitroaniline	ND ug/L		20.0	1.6	1	01/14/15 08:25	01/15/15 16:08	100-01-6	
Nitrobenzene	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	98-95-3	
2-Nitrophenol	ND ug/L		10.0	0.71	1	01/14/15 08:25	01/15/15 16:08	88-75-5	
4-Nitrophenol	ND ug/L		50.0	3.9	1	01/14/15 08:25	01/15/15 16:08	100-02-7	
N-Nitroso-di-n-propylamine	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 16:08	621-64-7	
N-Nitrosodiphenylamine	ND ug/L		10.0	0.64	1	01/14/15 08:25	01/15/15 16:08	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND ug/L		10.0	0.56	1	01/14/15 08:25	01/15/15 16:08	108-60-1	
Pentachlorophenol	ND ug/L		25.0	1.2	1	01/14/15 08:25	01/15/15 16:08	87-86-5	
Phenanthrene	ND ug/L		10.0	0.53	1	01/14/15 08:25	01/15/15 16:08	85-01-8	
Phenol	ND ug/L		10.0	1.1	1	01/14/15 08:25	01/15/15 16:08	108-95-2	
Pyrene	ND ug/L		10.0	0.49	1	01/14/15 08:25	01/15/15 16:08	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND ug/L		10.0	1.3	1	01/14/15 08:25	01/15/15 16:08	95-94-3	
2,3,4,6-Tetrachlorophenol	ND ug/L		10.0	1.6	1	01/14/15 08:25	01/15/15 16:08	58-90-2	
2,4,5-Trichlorophenol	ND ug/L		10.0	1.0	1	01/14/15 08:25	01/15/15 16:08	95-95-4	
2,4,6-Trichlorophenol	ND ug/L		10.0	0.85	1	01/14/15 08:25	01/15/15 16:08	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	36 %		21-110		1	01/14/15 08:25	01/15/15 16:08	4165-60-0	
2-Fluorobiphenyl (S)	38 %		27-110		1	01/14/15 08:25	01/15/15 16:08	321-60-8	
Terphenyl-d14 (S)	42 %		31-107		1	01/14/15 08:25	01/15/15 16:08	1718-51-0	
Phenol-d6 (S)	13 %		10-110		1	01/14/15 08:25	01/15/15 16:08	13127-88-3	
2-Fluorophenol (S)	20 %		12-110		1	01/14/15 08:25	01/15/15 16:08	367-12-4	
2,4,6-Tribromophenol (S)	28 %		27-110		1	01/14/15 08:25	01/15/15 16:08	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND ug/L		25.0	10.0	1		01/14/15 23:06	67-64-1	
Benzene	ND ug/L		1.0	0.25	1		01/14/15 23:06	71-43-2	
Bromochloromethane	ND ug/L		1.0	0.17	1		01/14/15 23:06	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		01/14/15 23:06	75-27-4	
Bromoform	ND ug/L		1.0	0.26	1		01/14/15 23:06	75-25-2	
Bromomethane	ND ug/L		2.0	0.29	1		01/14/15 23:06	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	0.96	1		01/14/15 23:06	78-93-3	
Carbon disulfide	ND ug/L		2.0	1.2	1		01/14/15 23:06	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		01/14/15 23:06	56-23-5	
Chlorobenzene	ND ug/L		1.0	0.23	1		01/14/15 23:06	108-90-7	
Chloroethane	ND ug/L		1.0	0.54	1		01/14/15 23:06	75-00-3	
Chloroform	ND ug/L		1.0	0.14	1		01/14/15 23:06	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		01/14/15 23:06	74-87-3	
Cyclohexane	ND ug/L		1.0	0.36	1		01/14/15 23:06	110-82-7	
1,2-Dibromo-3-chloropropane	ND ug/L		2.0	2.0	1		01/14/15 23:06	96-12-8	
Dibromochloromethane	ND ug/L		1.0	0.21	1		01/14/15 23:06	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-5A		Lab ID: 92232749007		Collected: 01/09/15 10:15		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/14/15 23:06	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/14/15 23:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/14/15 23:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/14/15 23:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/14/15 23:06	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/14/15 23:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/14/15 23:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/14/15 23:06	75-35-4	
cis-1,2-Dichloroethene	0.33J	ug/L	1.0	0.19	1		01/14/15 23:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/14/15 23:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/14/15 23:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/14/15 23:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/14/15 23:06	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/14/15 23:06	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/14/15 23:06	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/14/15 23:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/14/15 23:06	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/14/15 23:06	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/14/15 23:06	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/14/15 23:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/14/15 23:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/14/15 23:06	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/14/15 23:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/14/15 23:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/14/15 23:06	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/14/15 23:06	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/14/15 23:06	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/14/15 23:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/14/15 23:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/14/15 23:06	79-00-5	
Trichloroethene	154	ug/L	1.0	0.47	1		01/14/15 23:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/14/15 23:06	75-69-4	
1,1,2-Trichlorotrifluoroethane	0.21J	ug/L	1.0	0.19	1		01/14/15 23:06	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/14/15 23:06	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/14/15 23:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/14/15 23:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		1		01/14/15 23:06	460-00-4	
1,2-Dichloroethane-d4 (S)	127 %		70-130		1		01/14/15 23:06	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		01/14/15 23:06	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7		Lab ID: 92232749008		Collected: 01/09/15 11:05		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:44	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 16:44	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 16:44	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 16:44	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 16:44	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 16:44	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 16:44	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 16:44	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 16:44	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 16:44	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:44	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 16:44	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 16:44	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:44	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:44	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 16:44	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 16:44	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 16:44	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 16:44	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:44	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 16:44	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 16:44	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 16:44	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 16:44	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 16:44	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 16:44	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 16:44	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 16:44	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 16:44	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 16:44	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 16:44	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 16:44	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 16:44	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 16:44	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 16:44	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 16:44	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 16:44	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:44	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 16:44	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:44	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 16:44	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7		Lab ID: 92232749008		Collected: 01/09/15 11:05		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44		
Naphthalene	ND	ug/L	10.0	0.93	1	01/14/15 08:25	01/15/15 16:44	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/14/15 08:25	01/15/15 16:44	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/14/15 08:25	01/15/15 16:44	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 16:44	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/14/15 08:25	01/15/15 16:44	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/14/15 08:25	01/15/15 16:44	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 16:44	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/14/15 08:25	01/15/15 16:44	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/14/15 08:25	01/15/15 16:44	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/14/15 08:25	01/15/15 16:44	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 16:44	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 16:44	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 16:44	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 16:44	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/14/15 08:25	01/15/15 16:44	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 16:44	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 16:44	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	51 %		21-110		1	01/14/15 08:25	01/15/15 16:44	4165-60-0	
2-Fluorobiphenyl (S)	55 %		27-110		1	01/14/15 08:25	01/15/15 16:44	321-60-8	
Terphenyl-d14 (S)	84 %		31-107		1	01/14/15 08:25	01/15/15 16:44	1718-51-0	
Phenol-d6 (S)	17 %		10-110		1	01/14/15 08:25	01/15/15 16:44	13127-88-3	
2-Fluorophenol (S)	26 %		12-110		1	01/14/15 08:25	01/15/15 16:44	367-12-4	
2,4,6-Tribromophenol (S)	48 %		27-110		1	01/14/15 08:25	01/15/15 16:44	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	50.0	20.0	2		01/14/15 22:15	67-64-1	
Benzene	ND	ug/L	2.0	0.50	2		01/14/15 22:15	71-43-2	
Bromochloromethane	ND	ug/L	2.0	0.34	2		01/14/15 22:15	74-97-5	
Bromodichloromethane	ND	ug/L	2.0	0.36	2		01/14/15 22:15	75-27-4	
Bromoform	ND	ug/L	2.0	0.52	2		01/14/15 22:15	75-25-2	
Bromomethane	ND	ug/L	4.0	0.58	2		01/14/15 22:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1.9	2		01/14/15 22:15	78-93-3	
Carbon disulfide	ND	ug/L	4.0	2.3	2		01/14/15 22:15	75-15-0	
Carbon tetrachloride	ND	ug/L	2.0	0.50	2		01/14/15 22:15	56-23-5	
Chlorobenzene	ND	ug/L	2.0	0.46	2		01/14/15 22:15	108-90-7	
Chloroethane	ND	ug/L	2.0	1.1	2		01/14/15 22:15	75-00-3	
Chloroform	7.2	ug/L	2.0	0.28	2		01/14/15 22:15	67-66-3	
Chloromethane	ND	ug/L	2.0	0.22	2		01/14/15 22:15	74-87-3	
Cyclohexane	ND	ug/L	2.0	0.72	2		01/14/15 22:15	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	4.0	2		01/14/15 22:15	96-12-8	
Dibromochloromethane	ND	ug/L	2.0	0.42	2		01/14/15 22:15	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7		Lab ID: 92232749008		Collected: 01/09/15 11:05		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	2.0	0.54	2		01/14/15 22:15	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	2.0	0.60	2		01/14/15 22:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	2.0	0.48	2		01/14/15 22:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	2.0	0.66	2		01/14/15 22:15	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.0	0.42	2		01/14/15 22:15	75-71-8	
1,1-Dichloroethane	ND	ug/L	2.0	0.64	2		01/14/15 22:15	75-34-3	
1,2-Dichloroethane	0.89J	ug/L	2.0	0.24	2		01/14/15 22:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	2.0	1.1	2		01/14/15 22:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.0	0.38	2		01/14/15 22:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.0	0.98	2		01/14/15 22:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.0	0.54	2		01/14/15 22:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	2.0	0.26	2		01/14/15 22:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.0	0.52	2		01/14/15 22:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	300	157	2		01/14/15 22:15	123-91-1	
Ethylbenzene	ND	ug/L	2.0	0.60	2		01/14/15 22:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	0.92	2		01/14/15 22:15	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	2.0	0.80	2		01/14/15 22:15	98-82-8	
Methyl acetate	ND	ug/L	20.0	1.6	2		01/14/15 22:15	79-20-9	
Methylcyclohexane	ND	ug/L	20.0	3.7	2		01/14/15 22:15	108-87-2	
Methylene Chloride	ND	ug/L	4.0	1.9	2		01/14/15 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.66	2		01/14/15 22:15	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.0	0.42	2		01/14/15 22:15	1634-04-4	
Styrene	ND	ug/L	2.0	0.52	2		01/14/15 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.0	0.80	2		01/14/15 22:15	79-34-5	
Tetrachloroethene	ND	ug/L	2.0	0.92	2		01/14/15 22:15	127-18-4	
Toluene	ND	ug/L	2.0	0.52	2		01/14/15 22:15	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.0	0.66	2		01/14/15 22:15	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	0.70	2		01/14/15 22:15	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	2.0	0.96	2		01/14/15 22:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.0	0.58	2		01/14/15 22:15	79-00-5	
Trichloroethene	195	ug/L	2.0	0.94	2		01/14/15 22:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.0	0.40	2		01/14/15 22:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	2.0	0.38	2		01/14/15 22:15	76-13-1	
Vinyl chloride	ND	ug/L	2.0	1.2	2		01/14/15 22:15	75-01-4	
m&p-Xylene	ND	ug/L	4.0	1.3	2		01/14/15 22:15	179601-23-1	
o-Xylene	ND	ug/L	2.0	0.46	2		01/14/15 22:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94 %		70-130		2		01/14/15 22:15	460-00-4	
1,2-Dichloroethane-d4 (S)	124 %		70-130		2		01/14/15 22:15	17060-07-0	
Toluene-d8 (S)	99 %		70-130		2		01/14/15 22:15	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7A		Lab ID: 92232749009		Collected: 01/09/15 11:45		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 17:20	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/14/15 08:25	01/15/15 17:20	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/14/15 08:25	01/15/15 17:20	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 17:20	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/14/15 08:25	01/15/15 17:20	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/14/15 08:25	01/15/15 17:20	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/14/15 08:25	01/15/15 17:20	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/14/15 08:25	01/15/15 17:20	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/14/15 08:25	01/15/15 17:20	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/14/15 08:25	01/15/15 17:20	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 17:20	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/14/15 08:25	01/15/15 17:20	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/14/15 08:25	01/15/15 17:20	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 17:20	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 17:20	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/14/15 08:25	01/15/15 17:20	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 17:20	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 17:20	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/14/15 08:25	01/15/15 17:20	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 17:20	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 17:20	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 17:20	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/14/15 08:25	01/15/15 17:20	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 17:20	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/14/15 08:25	01/15/15 17:20	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/14/15 08:25	01/15/15 17:20	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/14/15 08:25	01/15/15 17:20	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/14/15 08:25	01/15/15 17:20	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/14/15 08:25	01/15/15 17:20	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/14/15 08:25	01/15/15 17:20	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 17:20	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/14/15 08:25	01/15/15 17:20	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/14/15 08:25	01/15/15 17:20	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/14/15 08:25	01/15/15 17:20	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/14/15 08:25	01/15/15 17:20	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 17:20	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/14/15 08:25	01/15/15 17:20	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 17:20	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/14/15 08:25	01/15/15 17:20	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 17:20	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/14/15 08:25	01/15/15 17:20	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7A		Lab ID: 92232749009		Collected: 01/09/15 11:45		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	1.2J	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20		
Naphthalene	1.0J	ug/L	10.0	0.93	1	01/14/15 08:25	01/15/15 17:20	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/14/15 08:25	01/15/15 17:20	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/14/15 08:25	01/15/15 17:20	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/14/15 08:25	01/15/15 17:20	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/14/15 08:25	01/15/15 17:20	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/14/15 08:25	01/15/15 17:20	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 17:20	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/14/15 08:25	01/15/15 17:20	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/14/15 08:25	01/15/15 17:20	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/14/15 08:25	01/15/15 17:20	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/14/15 08:25	01/15/15 17:20	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/14/15 08:25	01/15/15 17:20	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/14/15 08:25	01/15/15 17:20	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/14/15 08:25	01/15/15 17:20	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/14/15 08:25	01/15/15 17:20	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/14/15 08:25	01/15/15 17:20	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/14/15 08:25	01/15/15 17:20	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	43	%	21-110		1	01/14/15 08:25	01/15/15 17:20	4165-60-0	
2-Fluorobiphenyl (S)	47	%	27-110		1	01/14/15 08:25	01/15/15 17:20	321-60-8	
Terphenyl-d14 (S)	64	%	31-107		1	01/14/15 08:25	01/15/15 17:20	1718-51-0	
Phenol-d6 (S)	15	%	10-110		1	01/14/15 08:25	01/15/15 17:20	13127-88-3	
2-Fluorophenol (S)	23	%	12-110		1	01/14/15 08:25	01/15/15 17:20	367-12-4	
2,4,6-Tribromophenol (S)	51	%	27-110		1	01/14/15 08:25	01/15/15 17:20	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	12500	5000	500		01/14/15 22:32	67-64-1	
Benzene	ND	ug/L	500	125	500		01/14/15 22:32	71-43-2	
Bromochloromethane	ND	ug/L	500	85.0	500		01/14/15 22:32	74-97-5	
Bromodichloromethane	ND	ug/L	500	90.0	500		01/14/15 22:32	75-27-4	
Bromoform	ND	ug/L	500	130	500		01/14/15 22:32	75-25-2	
Bromomethane	ND	ug/L	1000	145	500		01/14/15 22:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	2500	480	500		01/14/15 22:32	78-93-3	
Carbon disulfide	ND	ug/L	1000	575	500		01/14/15 22:32	75-15-0	
Carbon tetrachloride	ND	ug/L	500	125	500		01/14/15 22:32	56-23-5	
Chlorobenzene	ND	ug/L	500	115	500		01/14/15 22:32	108-90-7	
Chloroethane	ND	ug/L	500	270	500		01/14/15 22:32	75-00-3	
Chloroform	ND	ug/L	500	70.0	500		01/14/15 22:32	67-66-3	
Chloromethane	ND	ug/L	500	55.0	500		01/14/15 22:32	74-87-3	
Cyclohexane	ND	ug/L	500	180	500		01/14/15 22:32	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	1000	1000	500		01/14/15 22:32	96-12-8	
Dibromochloromethane	ND	ug/L	500	105	500		01/14/15 22:32	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Sample: MW-7A		Lab ID: 92232749009		Collected: 01/09/15 11:45		Received: 01/09/15 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	500	135	500		01/14/15 22:32	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	500	150	500		01/14/15 22:32	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	500	120	500		01/14/15 22:32	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	500	165	500		01/14/15 22:32	106-46-7	
Dichlorodifluoromethane	ND	ug/L	500	105	500		01/14/15 22:32	75-71-8	
1,1-Dichloroethane	ND	ug/L	500	160	500		01/14/15 22:32	75-34-3	
1,2-Dichloroethane	ND	ug/L	500	60.0	500		01/14/15 22:32	107-06-2	
1,1-Dichloroethene	ND	ug/L	500	280	500		01/14/15 22:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	500	95.0	500		01/14/15 22:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500	245	500		01/14/15 22:32	156-60-5	
1,2-Dichloropropane	ND	ug/L	500	135	500		01/14/15 22:32	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	500	65.0	500		01/14/15 22:32	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	500	130	500		01/14/15 22:32	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	75000	39200	500		01/14/15 22:32	123-91-1	
Ethylbenzene	ND	ug/L	500	150	500		01/14/15 22:32	100-41-4	
2-Hexanone	ND	ug/L	2500	230	500		01/14/15 22:32	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	500	200	500		01/14/15 22:32	98-82-8	
Methyl acetate	ND	ug/L	5000	410	500		01/14/15 22:32	79-20-9	
Methylcyclohexane	ND	ug/L	5000	935	500		01/14/15 22:32	108-87-2	
Methylene Chloride	ND	ug/L	1000	485	500		01/14/15 22:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	165	500		01/14/15 22:32	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	500	105	500		01/14/15 22:32	1634-04-4	
Styrene	ND	ug/L	500	130	500		01/14/15 22:32	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	500	200	500		01/14/15 22:32	79-34-5	
Tetrachloroethene	ND	ug/L	500	230	500		01/14/15 22:32	127-18-4	
Toluene	ND	ug/L	500	130	500		01/14/15 22:32	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	500	165	500		01/14/15 22:32	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	500	175	500		01/14/15 22:32	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	500	240	500		01/14/15 22:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	145	500		01/14/15 22:32	79-00-5	
Trichloroethene	52800	ug/L	500	235	500		01/14/15 22:32	79-01-6	
Trichlorofluoromethane	ND	ug/L	500	100	500		01/14/15 22:32	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	500	95.0	500		01/14/15 22:32	76-13-1	
Vinyl chloride	ND	ug/L	500	310	500		01/14/15 22:32	75-01-4	
m&p-Xylene	ND	ug/L	1000	330	500		01/14/15 22:32	179601-23-1	
o-Xylene	ND	ug/L	500	115	500		01/14/15 22:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		500		01/14/15 22:32	460-00-4	
1,2-Dichloroethane-d4 (S)	126 %		70-130		500		01/14/15 22:32	17060-07-0	
Toluene-d8 (S)	98 %		70-130		500		01/14/15 22:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

QC Batch:	MSV/29993	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92232749001, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009		

METHOD BLANK: 1370208

Matrix: Water

Associated Lab Samples: 92232749001, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/14/15 19:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/14/15 19:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/14/15 19:42	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/14/15 19:42	
1,1-Dichloroethane	ug/L	ND	1.0	01/14/15 19:42	
1,1-Dichloroethene	ug/L	ND	1.0	01/14/15 19:42	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/14/15 19:42	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/14/15 19:42	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
1,2-Dichloroethane	ug/L	ND	1.0	01/14/15 19:42	
1,2-Dichloropropane	ug/L	ND	1.0	01/14/15 19:42	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/14/15 19:42	
2-Butanone (MEK)	ug/L	ND	5.0	01/14/15 19:42	
2-Hexanone	ug/L	ND	5.0	01/14/15 19:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/14/15 19:42	
Acetone	ug/L	ND	25.0	01/14/15 19:42	
Benzene	ug/L	ND	1.0	01/14/15 19:42	
Bromochloromethane	ug/L	ND	1.0	01/14/15 19:42	
Bromodichloromethane	ug/L	ND	1.0	01/14/15 19:42	
Bromoform	ug/L	ND	1.0	01/14/15 19:42	
Bromomethane	ug/L	ND	2.0	01/14/15 19:42	
Carbon disulfide	ug/L	ND	2.0	01/14/15 19:42	
Carbon tetrachloride	ug/L	ND	1.0	01/14/15 19:42	
Chlorobenzene	ug/L	ND	1.0	01/14/15 19:42	
Chloroethane	ug/L	ND	1.0	01/14/15 19:42	
Chloroform	ug/L	ND	1.0	01/14/15 19:42	
Chloromethane	ug/L	ND	1.0	01/14/15 19:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/14/15 19:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/14/15 19:42	
Cyclohexane	ug/L	ND	1.0	01/14/15 19:42	
Dibromochloromethane	ug/L	ND	1.0	01/14/15 19:42	
Dichlorodifluoromethane	ug/L	ND	1.0	01/14/15 19:42	
Ethylbenzene	ug/L	ND	1.0	01/14/15 19:42	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/14/15 19:42	
m&p-Xylene	ug/L	ND	2.0	01/14/15 19:42	
Methyl acetate	ug/L	ND	10.0	01/14/15 19:42	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

METHOD BLANK: 1370208

Matrix: Water

Associated Lab Samples: 92232749001, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	1.0	01/14/15 19:42	
Methylcyclohexane	ug/L	ND	10.0	01/14/15 19:42	
Methylene Chloride	ug/L	ND	2.0	01/14/15 19:42	
o-Xylene	ug/L	ND	1.0	01/14/15 19:42	
Styrene	ug/L	ND	1.0	01/14/15 19:42	
Tetrachloroethene	ug/L	ND	1.0	01/14/15 19:42	
Toluene	ug/L	ND	1.0	01/14/15 19:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/14/15 19:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/14/15 19:42	
Trichloroethene	ug/L	ND	1.0	01/14/15 19:42	
Trichlorofluoromethane	ug/L	ND	1.0	01/14/15 19:42	
Vinyl chloride	ug/L	ND	1.0	01/14/15 19:42	
1,2-Dichloroethane-d4 (S)	%	111	70-130	01/14/15 19:42	
4-Bromofluorobenzene (S)	%	96	70-130	01/14/15 19:42	
Toluene-d8 (S)	%	99	70-130	01/14/15 19:42	

LABORATORY CONTROL SAMPLE: 1370209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	63.6	127	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.1	102	70-130	
1,1,2-Trichloroethane	ug/L	50	53.9	108	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	68.6	137	70-130	L3
1,1-Dichloroethane	ug/L	50	60.8	122	70-130	
1,1-Dichloroethene	ug/L	50	71.4	143	70-132	L3
1,2,3-Trichlorobenzene	ug/L	50	51.5	103	70-135	
1,2,4-Trichlorobenzene	ug/L	50	50.8	102	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	53.0	106	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.6	109	70-130	
1,2-Dichlorobenzene	ug/L	50	50.6	101	70-130	
1,2-Dichloroethane	ug/L	50	62.7	125	70-130	
1,2-Dichloropropane	ug/L	50	55.6	111	70-130	
1,3-Dichlorobenzene	ug/L	50	50.4	101	70-130	
1,4-Dichlorobenzene	ug/L	50	52.1	104	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	448	45	71-125	L0
2-Butanone (MEK)	ug/L	100	105	105	70-145	
2-Hexanone	ug/L	100	94.1	94	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	70-140	
Acetone	ug/L	100	115	115	50-175	
Benzene	ug/L	50	57.1	114	70-130	
Bromochloromethane	ug/L	50	58.9	118	70-130	
Bromodichloromethane	ug/L	50	54.7	109	70-130	
Bromoform	ug/L	50	44.4	89	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

LABORATORY CONTROL SAMPLE: 1370209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	50	49.9	100	54-130	
Carbon disulfide	ug/L	50	64.5	129	70-131	
Carbon tetrachloride	ug/L	50	63.6	127	70-132	
Chlorobenzene	ug/L	50	52.2	104	70-130	
Chloroethane	ug/L	50	57.4	115	64-134	
Chloroform	ug/L	50	53.9	108	70-130	
Chloromethane	ug/L	50	45.8	92	64-130	
cis-1,2-Dichloroethene	ug/L	50	62.5	125	70-131	
cis-1,3-Dichloropropene	ug/L	50	56.2	112	70-130	
Cyclohexane	ug/L	50	58.1	116	70-130	
Dibromochloromethane	ug/L	50	52.0	104	70-130	
Dichlorodifluoromethane	ug/L	50	56.6	113	56-130	
Ethylbenzene	ug/L	50	52.7	105	70-130	
Isopropylbenzene (Cumene)	ug/L	50	52.7	105	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl acetate	ug/L	50	60.8	122	70-130	
Methyl-tert-butyl ether	ug/L	50	51.7	103	70-130	
Methylcyclohexane	ug/L	50	50.7	101	70-130	
Methylene Chloride	ug/L	50	67.2	134	63-130 L3	
o-Xylene	ug/L	50	51.5	103	70-130	
Styrene	ug/L	50	54.0	108	70-130	
Tetrachloroethene	ug/L	50	50.4	101	70-130	
Toluene	ug/L	50	55.7	111	70-130	
trans-1,2-Dichloroethene	ug/L	50	64.3	129	70-130	
trans-1,3-Dichloropropene	ug/L	50	58.2	116	70-132	
Trichloroethene	ug/L	50	53.0	106	70-130	
Trichlorofluoromethane	ug/L	50	62.9	126	62-133	
Vinyl chloride	ug/L	50	52.3	105	50-150	
1,2-Dichloroethane-d4 (S)	%			112	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1370210 1370211

Parameter	Units	92232749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	277	500	500	939	835	132	112	70-130	12	30	M0
1,1,2,2-Tetrachloroethane	ug/L	ND	500	500	533	491	107	98	70-130	8	30	
1,1,2-Trichloroethane	ug/L	ND	500	500	527	490	105	98	70-130	7	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	500	500	794	690	159	138	70-130	14	30	M0
1,1-Dichloroethane	ug/L	ND	500	500	646	568	129	114	70-130	13	30	
1,1-Dichloroethene	ug/L	ND	500	500	757	645	151	128	70-166	16	30	
1,2,3-Trichlorobenzene	ug/L	ND	500	500	624	559	125	112	70-130	11	30	
1,2,4-Trichlorobenzene	ug/L	ND	500	500	586	514	117	103	70-130	13	30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1370210 1370211											
Parameter	Units	92232749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,2-Dibromo-3-chloropropane	ug/L	ND	500	500	532	502	106	100	70-130	6	30
1,2-Dibromoethane (EDB)	ug/L	ND	500	500	549	478	110	96	70-130	14	30
1,2-Dichlorobenzene	ug/L	ND	500	500	526	476	105	95	70-130	10	30
1,2-Dichloroethane	ug/L	ND	500	500	583	552	117	110	70-130	5	30
1,2-Dichloropropane	ug/L	ND	500	500	571	493	114	99	70-130	15	30
1,3-Dichlorobenzene	ug/L	ND	500	500	539	468	108	94	70-130	14	30
1,4-Dichlorobenzene	ug/L	ND	500	500	534	475	107	95	70-130	12	30
1,4-Dioxane (p-Dioxane)	ug/L	ND	10000	10000	7880	6210	79	62	70-130	24	30 M0
2-Butanone (MEK)	ug/L	ND	1000	1000	1080	1040	108	104	70-130	5	30
2-Hexanone	ug/L	ND	1000	1000	812	734	81	73	70-130	10	30
4-Methyl-2-pentanone (MIBK)	ug/L	ND	1000	1000	1120	1060	112	106	70-130	5	30
Acetone	ug/L	ND	1000	1000	1130	1090	113	109	70-130	3	30
Benzene	ug/L	ND	500	500	618	547	124	109	70-148	12	30
Bromochloromethane	ug/L	ND	500	500	612	527	122	105	70-130	15	30
Bromodichloromethane	ug/L	ND	500	500	508	450	102	90	70-130	12	30
Bromoform	ug/L	ND	500	500	443	407	89	81	70-130	9	30
Bromomethane	ug/L	ND	500	500	759	648	152	130	70-130	16	30 M0
Carbon disulfide	ug/L	ND	500	500	665	592	133	118	70-130	12	30 M0
Carbon tetrachloride	ug/L	ND	500	500	662	568	132	114	70-130	15	30 M0
Chlorobenzene	ug/L	ND	500	500	564	497	113	99	70-146	13	30
Chloroethane	ug/L	ND	500	500	609	520	121	103	70-130	16	30
Chloroform	ug/L	ND	500	500	573	498	115	100	70-130	14	30
Chloromethane	ug/L	ND	500	500	518	444	104	89	70-130	15	30
cis-1,2-Dichloroethene	ug/L	38.3	500	500	684	599	129	112	70-130	13	30
cis-1,3-Dichloropropene	ug/L	ND	500	500	535	476	107	95	70-130	12	30
Cyclohexane	ug/L	ND	500	500	659	579	132	116	70-130	13	30 M0
Dibromochloromethane	ug/L	ND	500	500	490	426	98	85	70-130	14	30
Dichlorodifluoromethane	ug/L	ND	500	500	645	551	129	110	70-130	16	30
Ethylbenzene	ug/L	ND	500	500	580	501	116	100	70-130	15	30
Isopropylbenzene (Cumene)	ug/L	ND	500	500	585	517	116	103	70-130	12	30
m&p-Xylene	ug/L	ND	1000	1000	1180	1020	117	102	70-130	14	30
Methyl acetate	ug/L	ND	500	500	657	623	131	125	70-130	5	30 M0
Methyl-tert-butyl ether	ug/L	ND	500	500	525	468	105	94	70-130	12	30
Methylcyclohexane	ug/L	64.8J	500	500	637	574	114	102	70-130	10	30
Methylene Chloride	ug/L	ND	500	500	678	561	136	112	70-130	19	30 M0
o-Xylene	ug/L	13.1J	500	500	573	492	112	96	70-130	15	30
Styrene	ug/L	ND	500	500	570	476	114	95	70-130	18	30
Tetrachloroethene	ug/L	ND	500	500	547	478	109	96	70-130	14	30
Toluene	ug/L	ND	500	500	585	513	117	103	70-155	13	30
trans-1,2-Dichloroethene	ug/L	ND	500	500	695	604	139	121	70-130	14	30 M0
trans-1,3-Dichloropropene	ug/L	ND	500	500	553	483	111	97	70-130	13	30
Trichloroethene	ug/L	6310	500	500	5300	5040	-203	-255	69-151	5	30 E,M0
Trichlorofluoromethane	ug/L	ND	500	500	668	587	134	117	70-130	13	30 M0
Vinyl chloride	ug/L	ND	500	500	557	484	111	97	70-130	14	30

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1370210 1370211											
Parameter	Units	92232749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,2-Dichloroethane-d4 (S)	%						112	111	70-130		
4-Bromofluorobenzene (S)	%						101	99	70-130		
Toluene-d8 (S)	%						100	100	70-130		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

QC Batch: MSV/30009

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 92232749002

METHOD BLANK: 1371257

Matrix: Water

Associated Lab Samples: 92232749002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/15/15 16:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/15/15 16:19	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/15/15 16:19	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/15/15 16:19	
1,1-Dichloroethane	ug/L	ND	1.0	01/15/15 16:19	
1,1-Dichloroethene	ug/L	ND	1.0	01/15/15 16:19	
1,2,3-Trichlorobenzene	ug/L	0.58J	1.0	01/15/15 16:19	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/15/15 16:19	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/15/15 16:19	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/15/15 16:19	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/15/15 16:19	
1,2-Dichloroethane	ug/L	ND	1.0	01/15/15 16:19	
1,2-Dichloropropane	ug/L	ND	1.0	01/15/15 16:19	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/15/15 16:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/15/15 16:19	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/15/15 16:19	
2-Butanone (MEK)	ug/L	ND	5.0	01/15/15 16:19	
2-Hexanone	ug/L	ND	5.0	01/15/15 16:19	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/15/15 16:19	
Acetone	ug/L	ND	25.0	01/15/15 16:19	
Benzene	ug/L	ND	1.0	01/15/15 16:19	
Bromochloromethane	ug/L	ND	1.0	01/15/15 16:19	
Bromodichloromethane	ug/L	ND	1.0	01/15/15 16:19	
Bromoform	ug/L	ND	1.0	01/15/15 16:19	
Bromomethane	ug/L	ND	2.0	01/15/15 16:19	
Carbon disulfide	ug/L	ND	2.0	01/15/15 16:19	
Carbon tetrachloride	ug/L	ND	1.0	01/15/15 16:19	
Chlorobenzene	ug/L	ND	1.0	01/15/15 16:19	
Chloroethane	ug/L	ND	1.0	01/15/15 16:19	
Chloroform	ug/L	ND	1.0	01/15/15 16:19	
Chloromethane	ug/L	ND	1.0	01/15/15 16:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/15/15 16:19	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/15/15 16:19	
Cyclohexane	ug/L	ND	1.0	01/15/15 16:19	
Dibromochloromethane	ug/L	ND	1.0	01/15/15 16:19	
Dichlorodifluoromethane	ug/L	ND	1.0	01/15/15 16:19	
Ethylbenzene	ug/L	ND	1.0	01/15/15 16:19	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/15/15 16:19	
m&p-Xylene	ug/L	ND	2.0	01/15/15 16:19	
Methyl acetate	ug/L	ND	10.0	01/15/15 16:19	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/15/15 16:19	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

METHOD BLANK: 1371257

Matrix: Water

Associated Lab Samples: 92232749002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylcyclohexane	ug/L	ND	10.0	01/15/15 16:19	
Methylene Chloride	ug/L	ND	2.0	01/15/15 16:19	
o-Xylene	ug/L	ND	1.0	01/15/15 16:19	
Styrene	ug/L	ND	1.0	01/15/15 16:19	
Tetrachloroethene	ug/L	ND	1.0	01/15/15 16:19	
Toluene	ug/L	ND	1.0	01/15/15 16:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/15/15 16:19	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/15/15 16:19	
Trichloroethene	ug/L	ND	1.0	01/15/15 16:19	
Trichlorofluoromethane	ug/L	ND	1.0	01/15/15 16:19	
Vinyl chloride	ug/L	ND	1.0	01/15/15 16:19	
1,2-Dichloroethane-d4 (S)	%	96	70-130	01/15/15 16:19	
4-Bromofluorobenzene (S)	%	98	70-130	01/15/15 16:19	
Toluene-d8 (S)	%	98	70-130	01/15/15 16:19	

LABORATORY CONTROL SAMPLE: 1371258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	57.5	115	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	52.6	105	70-130	
1,1,2-Trichloroethane	ug/L	50	53.4	107	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	77.4	155	70-130	L3
1,1-Dichloroethane	ug/L	50	57.2	114	70-130	
1,1-Dichloroethene	ug/L	50	69.3	139	70-132	L3
1,2,3-Trichlorobenzene	ug/L	50	53.6	107	70-135	
1,2,4-Trichlorobenzene	ug/L	50	55.5	111	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	52.6	105	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	54.8	110	70-130	
1,2-Dichlorobenzene	ug/L	50	54.4	109	70-130	
1,2-Dichloroethane	ug/L	50	49.8	100	70-130	
1,2-Dichloropropane	ug/L	50	55.4	111	70-130	
1,3-Dichlorobenzene	ug/L	50	53.3	107	70-130	
1,4-Dichlorobenzene	ug/L	50	54.8	110	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	836	84	71-125	
2-Butanone (MEK)	ug/L	100	94.8	95	70-145	
2-Hexanone	ug/L	100	87.1	87	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	70-140	
Acetone	ug/L	100	95.3	95	50-175	
Benzene	ug/L	50	60.5	121	70-130	
Bromochloromethane	ug/L	50	61.9	124	70-130	
Bromodichloromethane	ug/L	50	50.8	102	70-130	
Bromoform	ug/L	50	46.8	94	70-130	
Bromomethane	ug/L	50	83.2	166	54-130	L3
Carbon disulfide	ug/L	50	81.2	162	70-131	L3

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

LABORATORY CONTROL SAMPLE: 1371258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	60.5	121	70-132	
Chlorobenzene	ug/L	50	53.6	107	70-130	
Chloroethane	ug/L	50	53.9	108	64-134	
Chloroform	ug/L	50	50.5	101	70-130	
Chloromethane	ug/L	50	54.7	109	64-130	
cis-1,2-Dichloroethene	ug/L	50	55.7	111	70-131	
cis-1,3-Dichloropropene	ug/L	50	58.4	117	70-130	
Cyclohexane	ug/L	50	59.8	120	70-130	
Dibromochloromethane	ug/L	50	53.9	108	70-130	
Dichlorodifluoromethane	ug/L	50	52.9	106	56-130	
Ethylbenzene	ug/L	50	54.6	109	70-130	
Isopropylbenzene (Cumene)	ug/L	50	55.0	110	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl acetate	ug/L	50	52.2	104	70-130	
Methyl-tert-butyl ether	ug/L	50	53.0	106	70-130	
Methylcyclohexane	ug/L	50	60.0	120	70-130	
Methylene Chloride	ug/L	50	59.7	119	63-130	
o-Xylene	ug/L	50	52.6	105	70-130	
Styrene	ug/L	50	57.1	114	70-130	
Tetrachloroethene	ug/L	50	52.7	105	70-130	
Toluene	ug/L	50	56.6	113	70-130	
trans-1,2-Dichloroethene	ug/L	50	61.7	123	70-130	
trans-1,3-Dichloropropene	ug/L	50	59.2	118	70-132	
Trichloroethene	ug/L	50	56.6	113	70-130	
Trichlorofluoromethane	ug/L	50	53.2	106	62-133	
Vinyl chloride	ug/L	50	51.3	103	50-150	
1,2-Dichloroethane-d4 (S)	%			90	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1371259

Parameter	Units	92233149005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	25.9	129	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	23.1	116	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	22.6	113	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	36.4	182	70-130	M0
1,1-Dichloroethane	ug/L	ND	20	25.3	127	70-130	
1,1-Dichloroethene	ug/L	ND	20	32.3	162	70-166	
1,2,3-Trichlorobenzene	ug/L	ND	20	25.0	125	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	25.0	125	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	24.1	121	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	23.7	118	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.7	113	70-130	
1,2-Dichloroethane	ug/L	ND	20	22.4	112	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

MATRIX SPIKE SAMPLE: 1371259		92233149005	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloropropane	ug/L	ND	20	23.5	117	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	22.7	113	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	23.0	115	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	616	154	70-130	M0
2-Butanone (MEK)	ug/L	ND	40	46.2	115	70-130	
2-Hexanone	ug/L	ND	40	49.1	123	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	47.0	117	70-130	
Acetone	ug/L	ND	40	47.5	108	70-130	
Benzene	ug/L	ND	20	26.5	132	70-148	
Bromochloromethane	ug/L	ND	20	25.3	126	70-130	
Bromodichloromethane	ug/L	ND	20	20.9	104	70-130	
Bromoform	ug/L	ND	20	21.1	105	70-130	
Bromomethane	ug/L	ND	20	36.5	183	70-130	M0
Carbon disulfide	ug/L	ND	20	34.5	173	70-130	M0
Carbon tetrachloride	ug/L	ND	20	27.4	137	70-130	M0
Chlorobenzene	ug/L	ND	20	23.2	116	70-146	
Chloroethane	ug/L	ND	20	24.9	125	70-130	
Chloroform	ug/L	ND	20	21.3	107	70-130	
Chloromethane	ug/L	ND	20	25.6	128	70-130	
cis-1,2-Dichloroethene	ug/L	ND	20	24.6	123	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	22.7	114	70-130	
Cyclohexane	ug/L	ND	20	27.8	139	70-130	M0
Dibromochloromethane	ug/L	ND	20	21.3	106	70-130	
Dichlorodifluoromethane	ug/L	ND	20	25.3	126	70-130	
Ethylbenzene	ug/L	ND	20	24.2	121	70-130	
Isopropylbenzene (Cumene)	ug/L	ND	20	24.8	124	70-130	
m&p-Xylene	ug/L	ND	40	49.3	123	70-130	
Methyl acetate	ug/L	ND	20	24.9	125	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.7	108	70-130	
Methylcyclohexane	ug/L	ND	20	28.5	142	70-130	M0
Methylene Chloride	ug/L	ND	20	24.4	122	70-130	
o-Xylene	ug/L	ND	20	23.3	116	70-130	
Styrene	ug/L	ND	20	23.8	119	70-130	
Tetrachloroethene	ug/L	ND	20	24.7	123	70-130	
Toluene	ug/L	ND	20	24.5	123	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	27.7	139	70-130	M0
trans-1,3-Dichloropropene	ug/L	ND	20	23.5	118	70-130	
Trichloroethene	ug/L	ND	20	24.5	123	69-151	
Trichlorofluoromethane	ug/L	ND	20	25.2	126	70-130	
Vinyl chloride	ug/L	ND	20	24.1	120	70-130	
1,2-Dichloroethane-d4 (S)	%				97	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				100	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

SAMPLE DUPLICATE: 1371260

Parameter	Units	92232956001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Cyclohexane	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl acetate	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylcyclohexane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

SAMPLE DUPLICATE: 1371260

Parameter	Units	92232956001 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	97	5		
4-Bromofluorobenzene (S)	%	96	99	3		
Toluene-d8 (S)	%	98	92	7		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Project No.: 92232749

QC Batch:	OEXT/32253	Analysis Method:	EPA 8270
QC Batch Method:	EPA 3510	Analysis Description:	8270 Water MSSV
Associated Lab Samples:	92232749002, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009		

METHOD BLANK:	1369333	Matrix:	Water
Associated Lab Samples:	92232749002, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	10.0	01/14/15 17:10	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	10.0	01/14/15 17:10	
2,3,4,6-Tetrachlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4,5-Trichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4,6-Trichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dichlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dimethylphenol	ug/L	ND	10.0	01/14/15 17:10	
2,4-Dinitrophenol	ug/L	ND	50.0	01/14/15 17:10	
2,4-Dinitrotoluene	ug/L	ND	10.0	01/14/15 17:10	
2,6-Dinitrotoluene	ug/L	ND	10.0	01/14/15 17:10	
2-Chloronaphthalene	ug/L	ND	10.0	01/14/15 17:10	
2-Chlorophenol	ug/L	ND	10.0	01/14/15 17:10	
2-Methylnaphthalene	ug/L	ND	10.0	01/14/15 17:10	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	01/14/15 17:10	
2-Nitroaniline	ug/L	ND	50.0	01/14/15 17:10	
2-Nitrophenol	ug/L	ND	10.0	01/14/15 17:10	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	01/14/15 17:10	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	01/14/15 17:10	
3-Nitroaniline	ug/L	ND	50.0	01/14/15 17:10	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	01/14/15 17:10	
4-Bromophenylphenyl ether	ug/L	ND	10.0	01/14/15 17:10	
4-Chloro-3-methylphenol	ug/L	ND	20.0	01/14/15 17:10	
4-Chloroaniline	ug/L	ND	20.0	01/14/15 17:10	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	01/14/15 17:10	
4-Nitroaniline	ug/L	ND	20.0	01/14/15 17:10	
4-Nitrophenol	ug/L	ND	50.0	01/14/15 17:10	
Acenaphthene	ug/L	ND	10.0	01/14/15 17:10	
Acenaphthylene	ug/L	ND	10.0	01/14/15 17:10	
Acetophenone	ug/L	ND	10.0	01/14/15 17:10	
Anthracene	ug/L	ND	10.0	01/14/15 17:10	
Atrazine	ug/L	ND	20.0	01/14/15 17:10	
Benzaldehyde	ug/L	ND	20.0	01/14/15 17:10	
Benzo(a)anthracene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(a)pyrene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(b)fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(g,h,i)perylene	ug/L	ND	10.0	01/14/15 17:10	
Benzo(k)fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Biphenyl (Diphenyl)	ug/L	ND	10.0	01/14/15 17:10	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	01/14/15 17:10	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	01/14/15 17:10	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

METHOD BLANK: 1369333

Matrix: Water

Associated Lab Samples: 92232749002, 92232749003, 92232749004, 92232749005, 92232749006, 92232749007, 92232749008, 92232749009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
bis(2-Ethylhexyl)phthalate	ug/L	ND	6.0	01/14/15 17:10	
Butylbenzylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Caprolactam	ug/L	ND	10.0	01/14/15 17:10	
Carbazole	ug/L	ND	10.0	01/14/15 17:10	
Chrysene	ug/L	ND	10.0	01/14/15 17:10	
Di-n-butylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Di-n-octylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Dibenz(a,h)anthracene	ug/L	ND	10.0	01/14/15 17:10	
Dibenzofuran	ug/L	ND	10.0	01/14/15 17:10	
Diethylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Dimethylphthalate	ug/L	ND	10.0	01/14/15 17:10	
Fluoranthene	ug/L	ND	10.0	01/14/15 17:10	
Fluorene	ug/L	ND	10.0	01/14/15 17:10	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	01/14/15 17:10	
Hexachlorobenzene	ug/L	ND	10.0	01/14/15 17:10	
Hexachlorocyclopentadiene	ug/L	ND	10.0	01/14/15 17:10	
Hexachloroethane	ug/L	ND	10.0	01/14/15 17:10	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	01/14/15 17:10	
Isophorone	ug/L	ND	10.0	01/14/15 17:10	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	01/14/15 17:10	
N-Nitrosodiphenylamine	ug/L	ND	10.0	01/14/15 17:10	
Naphthalene	ug/L	ND	10.0	01/14/15 17:10	
Nitrobenzene	ug/L	ND	10.0	01/14/15 17:10	
Pentachlorophenol	ug/L	ND	25.0	01/14/15 17:10	
Phenanthrene	ug/L	ND	10.0	01/14/15 17:10	
Phenol	ug/L	ND	10.0	01/14/15 17:10	
Pyrene	ug/L	ND	10.0	01/14/15 17:10	
2,4,6-Tribromophenol (S)	%	39	27-110	01/14/15 17:10	
2-Fluorobiphenyl (S)	%	43	27-110	01/14/15 17:10	
2-Fluorophenol (S)	%	22	12-110	01/14/15 17:10	
Nitrobenzene-d5 (S)	%	40	21-110	01/14/15 17:10	
Phenol-d6 (S)	%	13	10-110	01/14/15 17:10	
Terphenyl-d14 (S)	%	55	31-107	01/14/15 17:10	

LABORATORY CONTROL SAMPLE & LCSD: 1369334

1369335

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	50	20.9	21.9	42	44	16-129	5	30	
2,2'-Oxybis(1-chloropropane)	ug/L	50	16.0	17.6	32	35	18-120	9	30	
2,3,4,6-Tetrachlorophenol	ug/L	50	70.8	63.9	142	128	54-276	10	30	
2,4,5-Trichlorophenol	ug/L	50	31.0	28.9	62	58	43-113	7	30	
2,4,6-Trichlorophenol	ug/L	50	25.6	24.8	51	50	42-120	3	30	
2,4-Dichlorophenol	ug/L	50	17.8	19.0	36	38	30-120	7	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

LABORATORY CONTROL SAMPLE & LCSD: 1369334			1369335							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-Dimethylphenol	ug/L	50	18.3	18.6	37	37	29-111	1	30	
2,4-Dinitrophenol	ug/L	250	151	138	60	55	19-132	9	30	
2,4-Dinitrotoluene	ug/L	50	38.3	36.5	77	73	58-128	5	30	
2,6-Dinitrotoluene	ug/L	50	39.4	37.5	79	75	54-129	5	30	
2-Chloronaphthalene	ug/L	50	25.0	25.3	50	51	43-117	1	30	
2-Chlorophenol	ug/L	50	17.7	18.8	35	38	37-120	6	30	L2
2-Methylnaphthalene	ug/L	50	18.6	19.2	37	38	33-120	3	30	
2-Methylphenol(o-Cresol)	ug/L	50	14.9	16.0	30	32	31-120	7	30	L2
2-Nitroaniline	ug/L	100	63.8	59.6	64	60	48-121	7	30	
2-Nitrophenol	ug/L	50	19.3	20.2	39	40	25-116	5	30	
3&4-Methylphenol(m&p Cresol)	ug/L	50	13.1	14.0	26	28	23-120	7	30	
3,3'-Dichlorobenzidine	ug/L	250	75.3	69.4	30	28	10-154	8	30	
3-Nitroaniline	ug/L	100	73.1	68.6	73	69	43-115	6	30	
4,6-Dinitro-2-methylphenol	ug/L	100	74.2	68.7	74	69	44-124	8	30	
4-Bromophenylphenyl ether	ug/L	50	34.9	32.3	70	65	34-113	8	30	
4-Chloro-3-methylphenol	ug/L	100	48.7	47.3	49	47	31-110	3	30	
4-Chloroaniline	ug/L	100	39.8	40.5	40	41	20-120	2	30	
4-Chlorophenylphenyl ether	ug/L	50	32.6	31.0	65	62	34-116	5	30	
4-Nitroaniline	ug/L	100	79.2	73.1	79	73	46-128	8	30	
4-Nitrophenol	ug/L	250	79.0	72.4	32	29	11-120	9	30	
Acenaphthene	ug/L	50	28.7	27.8	57	56	48-114	3	30	
Acenaphthylene	ug/L	50	29.0	27.8	58	56	48-112	4	30	
Acetophenone	ug/L	50	19.7	21.4	39	43	24-120	8	30	
Anthracene	ug/L	50	38.2	35.0	76	70	57-118	9	30	
Atrazine	ug/L	50	42.7	41.2	85	82	33-160	4	30	
Benzaldehyde	ug/L	50	ND	ND	0	0	10-120		30	L2
Benzo(a)anthracene	ug/L	50	39.2	36.3	78	73	56-121	8	30	
Benzo(a)pyrene	ug/L	50	43.0	39.8	86	80	55-127	8	30	
Benzo(b)fluoranthene	ug/L	50	40.7	38.7	81	77	53-128	5	30	
Benzo(g,h,i)perylene	ug/L	50	40.2	36.1	80	72	54-125	11	30	
Benzo(k)fluoranthene	ug/L	50	36.2	34.4	72	69	51-123	5	30	
Biphenyl (Diphenyl)	ug/L	50	22.8	23.2	46	46	38-120	2	30	
bis(2-Chloroethoxy)methane	ug/L	50	22.4	23.4	45	47	32-120	4	30	
bis(2-Chloroethyl) ether	ug/L	50	19.8	20.7	40	41	33-111	4	30	
bis(2-Ethylhexyl)phthalate	ug/L	50	40.6	37.3	81	75	50-145	8	30	
Butylbenzylphthalate	ug/L	50	42.5	39.7	85	79	54-138	7	30	
Caprolactam	ug/L	50	11.1	11.2	22	22	10-115	1	30	
Carbazole	ug/L	50	37.0	34.0	74	68	59-119	8	30	
Chrysene	ug/L	50	40.1	36.5	80	73	58-127	9	30	
Di-n-butylphthalate	ug/L	50	39.8	36.9	80	74	56-125	8	30	
Di-n-octylphthalate	ug/L	50	39.2	35.7	78	71	50-134	9	30	
Dibenz(a,h)anthracene	ug/L	50	39.2	37.6	78	75	53-129	4	30	
Dibenzofuran	ug/L	50	31.0	29.6	62	59	45-120	5	30	
Diethylphthalate	ug/L	50	38.3	35.9	77	72	53-120	7	30	
Dimethylphthalate	ug/L	50	35.8	34.0	72	68	55-116	5	30	
Fluoranthene	ug/L	50	41.5	38.5	83	77	57-125	8	30	
Fluorene	ug/L	50	35.1	33.8	70	68	53-118	4	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

LABORATORY CONTROL SAMPLE & LCSD: 1369334			1369335							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/L	50	14.7	15.4	29	31	23-120	5	30	
Hexachlorobenzene	ug/L	50	35.5	32.2	71	64	49-116	10	30	
Hexachlorocyclopentadiene	ug/L	50	17.6	18.1	35	36	26-158	3	30	
Hexachloroethane	ug/L	50	16.8	17.6	34	35	30-114	5	30	
Indeno(1,2,3-cd)pyrene	ug/L	50	43.3	40.4	87	81	55-128	7	30	
Isophorone	ug/L	50	18.1	18.7	36	37	31-118	4	30	
N-Nitroso-di-n-propylamine	ug/L	50	18.7	19.5	37	39	32-119	4	30	
N-Nitrosodiphenylamine	ug/L	50	36.7	33.9	73	68	43-120	8	30	
Naphthalene	ug/L	50	18.5	19.2	37	38	32-120	3	30	
Nitrobenzene	ug/L	50	18.2	19.2	36	38	33-110	5	30	
Pentachlorophenol	ug/L	250	65.5	60.1	26	24	10-137	9	30	
Phenanthrene	ug/L	50	36.6	33.8	73	68	57-117	8	30	
Phenol	ug/L	50	9.2J	10J	18	20	10-120		30	
Pyrene	ug/L	50	38.0	35.7	76	71	55-122	6	30	
2,4,6-Tribromophenol (S)	%				75	67	27-110			
2-Fluorobiphenyl (S)	%				45	45	27-110			
2-Fluorophenol (S)	%				22	23	12-110			
Nitrobenzene-d5 (S)	%				36	36	21-110			
Phenol-d6 (S)	%				15	16	10-110			
Terphenyl-d14 (S)	%				73	68	31-107			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369939				1369940									
Parameter	Units	92232749005	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.									
1,2,4,5-Tetrachlorobenzene	ug/L	ND	100	100	42.9	37.7	43	38	50-150	13	30	M1	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	100	100	36.0	30.4	36	30	50-150	17	30	M1	
2,3,4,6-Tetrachlorophenol	ug/L	ND	100	100	127	99.0	127	99	50-150	25	30		
2,4,5-Trichlorophenol	ug/L	ND	100	100	58.8	47.6	59	48	19-105	21	30		
2,4,6-Trichlorophenol	ug/L	ND	100	100	47.1	41.9	47	42	13-108	12	30		
2,4-Dichlorophenol	ug/L	ND	100	100	35.4	33.2	35	33	29-111	6	30		
2,4-Dimethylphenol	ug/L	ND	100	100	36.4	33.9	36	34	21-103	7	30		
2,4-Dinitrophenol	ug/L	ND	500	500	253	190	51	38	10-109	29	30		
2,4-Dinitrotoluene	ug/L	ND	100	100	67.5	55.4	67	55	27-104	20	30		
2,6-Dinitrotoluene	ug/L	ND	100	100	70.4	55.3	70	55	28-101	24	30		
2-Chloronaphthalene	ug/L	ND	100	100	49.7	43.5	50	43	14-102	13	30		
2-Chlorophenol	ug/L	ND	100	100	39.3	35.1	39	35	16-110	11	30		
2-Methylnaphthalene	ug/L	42.9	100	100	75.0	65.7	32	23	13-110	13	30		
2-Methylphenol(o-Cresol)	ug/L	ND	100	100	34.2	29.9	34	30	19-110	13	30		
2-Nitroaniline	ug/L	ND	200	200	116	91.5J	58	46	26-103		30		
2-Nitrophenol	ug/L	ND	100	100	36.7	35.2	37	35	20-110	4	30		
3&4-Methylphenol(m&p Cresol)	ug/L	ND	100	100	31.0	28.4	31	28	20-110	9	30		
3,3'-Dichlorobenzidine	ug/L	ND	500	500	123	93.0	25	19	25-112	28	30	M1	
3-Nitroaniline	ug/L	ND	200	200	134	104	67	52	29-110	25	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369939 1369940											
Parameter	Units	92232749005		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
4,6-Dinitro-2-methylphenol	ug/L	ND	200	200	129	98.5	64	49	10-117	27	30
4-Bromophenylphenyl ether	ug/L	ND	100	100	64.6	53.7	65	54	20-105	18	30
4-Chloro-3-methylphenol	ug/L	ND	200	200	94.5	79.0	47	39	22-110	18	30
4-Chloroaniline	ug/L	ND	200	200	75.7	68.4	38	34	20-100	10	30
4-Chlorophenylphenyl ether	ug/L	ND	100	100	58.4	48.8	58	49	19-102	18	30
4-Nitroaniline	ug/L	ND	200	200	142	102	71	51	29-110	33	30 R1
4-Nitrophenol	ug/L	ND	500	500	191	133	38	27	10-110	36	30 R1
Acenaphthene	ug/L	ND	100	100	54.7	45.9	55	46	17-100	18	30
Acenaphthylene	ug/L	ND	100	100	52.6	44.8	53	45	21-100	16	30
Acetophenone	ug/L	ND	100	100	46.5	40.9	46	41	50-150	13	30 M1
Anthracene	ug/L	ND	100	100	70.3	55.4	70	55	24-109	24	30
Atrazine	ug/L	ND	100	100	78.2	56.3	78	56	50-150	33	30 R1
Benzaldehyde	ug/L	ND	100	100	ND	ND	0	0	50-150		30 M0
Benzo(a)anthracene	ug/L	ND	100	100	73.2	56.1	73	56	22-117	26	30
Benzo(a)pyrene	ug/L	ND	100	100	77.2	62.5	77	62	23-104	21	30
Benzo(b)fluoranthene	ug/L	ND	100	100	79.6	63.8	80	64	23-103	22	30
Benzo(g,h,i)perylene	ug/L	ND	100	100	74.7	54.6	75	55	18-111	31	30 R1
Benzo(k)fluoranthene	ug/L	ND	100	100	69.7	55.0	70	55	22-113	23	30
Biphenyl (Diphenyl)	ug/L	3.9J	100	100	48.9	41.5	45	38	50-150	16	30 M1
bis(2-Chloroethoxy)methane	ug/L	ND	100	100	46.4	40.3	46	40	22-110	14	30
bis(2-Chloroethyl) ether	ug/L	ND	100	100	43.3	37.1	43	37	16-110	15	30
bis(2-Ethylhexyl)phthalate	ug/L	ND	100	100	75.0	60.4	75	60	23-102	22	30
Butylbenzylphthalate	ug/L	ND	100	100	82.2	64.2	82	64	25-110	24	30
Caprolactam	ug/L	ND	100	100	30.2	27.9	30	28	50-150	8	30 M1
Carbazole	ug/L	ND	100	100	68.7	49.0	69	49	50-150	33	30 M1,R1
Chrysene	ug/L	ND	100	100	75.7	55.9	76	56	23-115	30	30
Di-n-butylphthalate	ug/L	ND	100	100	73.9	57.7	74	58	26-110	25	30
Di-n-octylphthalate	ug/L	ND	100	100	68.3	56.3	68	56	22-110	19	30
Dibenz(a,h)anthracene	ug/L	ND	100	100	74.3	55.0	74	55	21-112	30	30
Dibenzofuran	ug/L	ND	100	100	57.6	47.4	58	47	19-102	20	30
Diethylphthalate	ug/L	ND	100	100	69.9	55.4	70	55	29-110	23	30
Dimethylphthalate	ug/L	ND	100	100	66.0	52.0	66	52	27-110	24	30
Fluoranthene	ug/L	ND	100	100	76.7	54.6	77	55	23-112	34	30 R1
Fluorene	ug/L	2.0J	100	100	67.0	54.1	65	52	22-104	21	30
Hexachloro-1,3-butadiene	ug/L	ND	100	100	34.8	33.8	35	34	10-110	3	30
Hexachlorobenzene	ug/L	ND	100	100	65.9	52.8	66	53	21-116	22	30
Hexachlorocyclopentadiene	ug/L	ND	100	100	37.6	35.5	38	35	10-110	6	30
Hexachloroethane	ug/L	ND	100	100	45.2	40.3	45	40	10-110	12	30
Indeno(1,2,3-cd)pyrene	ug/L	ND	100	100	81.0	59.9	81	60	20-113	30	30
Isophorone	ug/L	ND	100	100	35.1	31.5	35	32	50-150	11	30 M1
N-Nitroso-di-n-propylamine	ug/L	ND	100	100	38.6	32.0	39	32	21-105	18	30
N-Nitrosodiphenylamine	ug/L	ND	100	100	63.4	54.8	63	55	23-107	15	30
Naphthalene	ug/L	14.1	100	100	50.1	45.2	36	31	10-110	10	30
Nitrobenzene	ug/L	ND	100	100	38.0	34.0	38	34	20-110	11	30
Pentachlorophenol	ug/L	ND	500	500	118	88.8	24	18	10-118	28	30
Phenanthrene	ug/L	3.2J	100	100	71.6	56.3	68	53	24-106	24	30

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369939 1369940												
Parameter	Units	92232749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Phenol	ug/L	ND	100	100	25.7	23.6	26	24	12-110	9	30	
Pyrene	ug/L	ND	100	100	73.6	60.9	74	61	24-114	19	30	
2,4,6-Tribromophenol (S)	%						65	54	27-110			
2-Fluorobiphenyl (S)	%						43	38	27-110			
2-Fluorophenol (S)	%						28	26	12-110			
Nitrobenzene-d5 (S)	%						34	32	21-110			
Phenol-d6 (S)	%						21	19	10-110			
Terphenyl-d14 (S)	%						68	57	31-107			

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QUALIFIERS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92232749

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92232749002	FD-02	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749003	MW-6A	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749004	MW-2	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749005	MW-3A	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749006	MW-5	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749007	MW-5A	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749008	MW-7	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749009	MW-7A	EPA 3510	OEXT/32253	EPA 8270	MSSV/10191
92232749001	TB-02	EPA 8260	MSV/29993		
92232749002	FD-02	EPA 8260	MSV/30009		
92232749003	MW-6A	EPA 8260	MSV/29993		
92232749004	MW-2	EPA 8260	MSV/29993		
92232749005	MW-3A	EPA 8260	MSV/29993		
92232749006	MW-5	EPA 8260	MSV/29993		
92232749007	MW-5A	EPA 8260	MSV/29993		
92232749008	MW-7	EPA 8260	MSV/29993		
92232749009	MW-7A	EPA 8260	MSV/29993		

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	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: June 10, 2014
	Document No.: F-ASV-CS-003-rev.14	Page 1 of 2
	Issuing Authorities: Pace Asheville Quality Office	

Client Name: Amec

Courier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used: IR Gun#3 -130265963 Type of Ice: Wet Blue None ☒ Samples on Ice, cooling process has begun

IR Gun #4 SN:140290365 Other: _____

Temp Correction Factor: Add / Subtract 0.0 C

Corrected Cooler Temp.: 4.7 / 4.4 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BDB 1/9/15

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☒ Yes ☐ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☐ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WJ</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☒ No	
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Field Data Required? Y / N

SCURF Review: [Signature] Date: 1/9/15

SRF Review: [Signature] Date: 1/12/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

W0# : 92232749



92232749



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AMEC	Report To: Susan Kelly	Attention: Susan Kelly	Invoice Number: 1883642	Page: 1	of 1
Address: 1308 Patton Ave	Copy To:	Company Name: AMEC	REGULATORY AGENCY		
Asheville NC 28806		Address: Susan Kelly	☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER		
Email To: susan.kelly@amec.com	Purchase Order No.:	Reference: Kevin Goodwin	☐ UST ☐ RCRA ☒ OTHER		
Phone: 828.252.8130	Project Name: CIS of Asheville	Project Profile #:	Site Location		
Requested Due Date/AT: Std.	Project Number: 0252120006		STATE: NC		

ITEM #	Section D Required Client Information	Matrix Codes Matrix / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other				
1	IB-62						1/9/15	13:35		1												
2	IB-62						1/9/15	13:35		2												
3	WW-6A						1/9/15	13:35		2												
4	WW-2						1/9/15	13:35		2												
5	WW-3A						1/9/15	13:35		2												
6	WW-5						1/9/15	13:35		2												
7	WW-5A						1/9/15	13:35		2												
8	WW-7						1/9/15	13:35		2												
9	WW-7A						1/9/15	13:35		2												
10																						
11																						
12																						

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
Level IV report		Susan Kelly		1/9/15		13:35		Susan Kelly		1/9/15		13:35		44 y y y	
PRINT NAME OF SAMPLER: Susan Kelly		DATE Signed: 1/9/15		Temp in °C		Received on Ice (Y/N)		Custody Sealed Cooler (Y/N)		Samples Intact (Y/N)					
SIGNATURE OF SAMPLER: Susan Kelly		DATE Signed: 1/9/15													

January 29, 2015

Ms. Susan Kelly
AMEC- Asheville
1308 Patton Avenue
Asheville, NC 28806

RE: Project: CTS OF ASHEVILLE 6252120006
Pace Project No.: 92233653

Dear Ms. Kelly:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Charlotte Certification IDs

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92233653001	TB-03	Water	01/15/15 00:00	01/15/15 16:55
92233653002	MW-10	Water	01/15/15 09:30	01/15/15 16:55
92233653003	MW-10A	Water	01/15/15 10:15	01/15/15 16:55
92233653004	MW-11	Water	01/15/15 11:35	01/15/15 16:55
92233653005	MW-11A	Water	01/15/15 12:15	01/15/15 16:55

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SAMPLE ANALYTE COUNT

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92233653001	TB-03	EPA 8260	GAW	55	PASI-C
92233653002	MW-10	EPA 8270	RES	73	PASI-C
		EPA 8260	GAW	55	PASI-C
92233653003	MW-10A	EPA 8270	RES	73	PASI-C
		EPA 8260	GAW	55	PASI-C
92233653004	MW-11	EPA 8270	RES	73	PASI-C
		EPA 8260	GAW	55	PASI-C
92233653005	MW-11A	EPA 8270	RES	73	PASI-C
		EPA 8260	GAW	55	PASI-C

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SUMMARY OF DETECTION

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92233653005	MW-11A					
EPA 8260	Trichloroethene	2.4	ug/L	1.0	01/21/15 18:27	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 29, 2015

General Information:

4 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/32353

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1372241)
- Benzaldehyde

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/32353

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92233653004

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1372242)
 - 2,2'-Oxybis(1-chloropropane)
 - 2,3,4,6-Tetrachlorophenol
 - Benzaldehyde
 - Caprolactam

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: AMEC, Asheville

Date: January 29, 2015

QC Batch: OEXT/32353

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92233653004

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Isophorone
- MSD (Lab ID: 1372243)
 - 2,2'-Oxybis(1-chloropropane)
 - 2,3,4,6-Tetrachlorophenol
 - Benzaldehyde
 - Caprolactam
 - Isophorone
 - bis(2-Ethylhexyl)phthalate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 29, 2015

General Information:

5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/30047

LO: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1374073)
- Chloroethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/30047

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92233686005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1374075)
 - 1,4-Dioxane (p-Dioxane)
 - Bromomethane
 - Methyl acetate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Method: EPA 8260

Description: 8260 MSV Low Level

Client: AMEC, Asheville

Date: January 29, 2015

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: TB-03		Lab ID: 92233653001		Collected: 01/15/15 00:00		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND ug/L		25.0	10.0	1		01/21/15 11:29	67-64-1	
Benzene	ND ug/L		1.0	0.25	1		01/21/15 11:29	71-43-2	
Bromochloromethane	ND ug/L		1.0	0.17	1		01/21/15 11:29	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		01/21/15 11:29	75-27-4	
Bromoform	ND ug/L		1.0	0.26	1		01/21/15 11:29	75-25-2	
Bromomethane	ND ug/L		2.0	0.29	1		01/21/15 11:29	74-83-9	
2-Butanone (MEK)	ND ug/L		5.0	0.96	1		01/21/15 11:29	78-93-3	
Carbon disulfide	ND ug/L		2.0	1.2	1		01/21/15 11:29	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		01/21/15 11:29	56-23-5	
Chlorobenzene	ND ug/L		1.0	0.23	1		01/21/15 11:29	108-90-7	
Chloroethane	ND ug/L		1.0	0.54	1		01/21/15 11:29	75-00-3	L0
Chloroform	ND ug/L		1.0	0.14	1		01/21/15 11:29	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		01/21/15 11:29	74-87-3	
Cyclohexane	ND ug/L		1.0	0.36	1		01/21/15 11:29	110-82-7	
1,2-Dibromo-3-chloropropane	ND ug/L		2.0	2.0	1		01/21/15 11:29	96-12-8	
Dibromochloromethane	ND ug/L		1.0	0.21	1		01/21/15 11:29	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		01/21/15 11:29	106-93-4	
1,2-Dichlorobenzene	ND ug/L		1.0	0.30	1		01/21/15 11:29	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	0.24	1		01/21/15 11:29	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 11:29	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	0.21	1		01/21/15 11:29	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	0.32	1		01/21/15 11:29	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		01/21/15 11:29	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/15 11:29	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/15 11:29	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/15 11:29	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		01/21/15 11:29	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		01/21/15 11:29	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		01/21/15 11:29	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND ug/L		150	78.4	1		01/21/15 11:29	123-91-1	
Ethylbenzene	ND ug/L		1.0	0.30	1		01/21/15 11:29	100-41-4	
2-Hexanone	ND ug/L		5.0	0.46	1		01/21/15 11:29	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	0.40	1		01/21/15 11:29	98-82-8	
Methyl acetate	ND ug/L		10.0	0.82	1		01/21/15 11:29	79-20-9	
Methylcyclohexane	ND ug/L		10.0	1.9	1		01/21/15 11:29	108-87-2	
Methylene Chloride	ND ug/L		2.0	0.97	1		01/21/15 11:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	0.33	1		01/21/15 11:29	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	0.21	1		01/21/15 11:29	1634-04-4	
Styrene	ND ug/L		1.0	0.26	1		01/21/15 11:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		01/21/15 11:29	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/15 11:29	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/15 11:29	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 11:29	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	0.35	1		01/21/15 11:29	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/15 11:29	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		01/21/15 11:29	79-00-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: TB-03		Lab ID: 92233653001		Collected: 01/15/15 00:00		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
Trichloroethene	ND	ug/L	1.0	0.47	1		01/21/15 11:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/21/15 11:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/21/15 11:29	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/21/15 11:29	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/21/15 11:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/21/15 11:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		01/21/15 11:29	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		01/21/15 11:29	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		01/21/15 11:29	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10		Lab ID: 92233653002		Collected: 01/15/15 09:30		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:14	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/16/15 14:30	01/21/15 20:14	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/16/15 14:30	01/21/15 20:14	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 20:14	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/16/15 14:30	01/21/15 20:14	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/16/15 14:30	01/21/15 20:14	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 20:14	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/16/15 14:30	01/21/15 20:14	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/16/15 14:30	01/21/15 20:14	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/16/15 14:30	01/21/15 20:14	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:14	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/16/15 14:30	01/21/15 20:14	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/16/15 14:30	01/21/15 20:14	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:14	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:14	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/16/15 14:30	01/21/15 20:14	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 20:14	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 20:14	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/16/15 14:30	01/21/15 20:14	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:14	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:14	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:14	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/16/15 14:30	01/21/15 20:14	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:14	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/16/15 14:30	01/21/15 20:14	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/16/15 14:30	01/21/15 20:14	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/16/15 14:30	01/21/15 20:14	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/16/15 14:30	01/21/15 20:14	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/16/15 14:30	01/21/15 20:14	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/16/15 14:30	01/21/15 20:14	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 20:14	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/16/15 14:30	01/21/15 20:14	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/16/15 14:30	01/21/15 20:14	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/16/15 14:30	01/21/15 20:14	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/16/15 14:30	01/21/15 20:14	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 20:14	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/16/15 14:30	01/21/15 20:14	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:14	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 20:14	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:14	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 20:14	78-59-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10		Lab ID: 92233653002		Collected: 01/15/15 09:30		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14		
Naphthalene	ND	ug/L	10.0	0.93	1	01/16/15 14:30	01/21/15 20:14	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/16/15 14:30	01/21/15 20:14	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/16/15 14:30	01/21/15 20:14	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 20:14	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/16/15 14:30	01/21/15 20:14	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/16/15 14:30	01/21/15 20:14	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:14	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/16/15 14:30	01/21/15 20:14	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/16/15 14:30	01/21/15 20:14	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/16/15 14:30	01/21/15 20:14	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:14	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:14	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:14	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 20:14	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/16/15 14:30	01/21/15 20:14	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:14	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:14	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	47 %		21-110		1	01/16/15 14:30	01/21/15 20:14	4165-60-0	
2-Fluorobiphenyl (S)	50 %		27-110		1	01/16/15 14:30	01/21/15 20:14	321-60-8	
Terphenyl-d14 (S)	80 %		31-107		1	01/16/15 14:30	01/21/15 20:14	1718-51-0	
Phenol-d6 (S)	17 %		10-110		1	01/16/15 14:30	01/21/15 20:14	13127-88-3	
2-Fluorophenol (S)	27 %		12-110		1	01/16/15 14:30	01/21/15 20:14	367-12-4	
2,4,6-Tribromophenol (S)	55 %		27-110		1	01/16/15 14:30	01/21/15 20:14	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/21/15 17:37	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/21/15 17:37	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/21/15 17:37	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/21/15 17:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/21/15 17:37	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/21/15 17:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/21/15 17:37	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/21/15 17:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/21/15 17:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/21/15 17:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/21/15 17:37	75-00-3	LO
Chloroform	ND	ug/L	1.0	0.14	1		01/21/15 17:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/21/15 17:37	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/21/15 17:37	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/21/15 17:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/21/15 17:37	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10		Lab ID: 92233653002		Collected: 01/15/15 09:30		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		01/21/15 17:37	106-93-4	
1,2-Dichlorobenzene	ND ug/L		1.0	0.30	1		01/21/15 17:37	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	0.24	1		01/21/15 17:37	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 17:37	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	0.21	1		01/21/15 17:37	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	0.32	1		01/21/15 17:37	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		01/21/15 17:37	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/15 17:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/15 17:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/15 17:37	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		01/21/15 17:37	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		01/21/15 17:37	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		01/21/15 17:37	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND ug/L		150	78.4	1		01/21/15 17:37	123-91-1	
Ethylbenzene	ND ug/L		1.0	0.30	1		01/21/15 17:37	100-41-4	
2-Hexanone	ND ug/L		5.0	0.46	1		01/21/15 17:37	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	0.40	1		01/21/15 17:37	98-82-8	
Methyl acetate	ND ug/L		10.0	0.82	1		01/21/15 17:37	79-20-9	
Methylcyclohexane	ND ug/L		10.0	1.9	1		01/21/15 17:37	108-87-2	
Methylene Chloride	ND ug/L		2.0	0.97	1		01/21/15 17:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	0.33	1		01/21/15 17:37	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	0.21	1		01/21/15 17:37	1634-04-4	
Styrene	ND ug/L		1.0	0.26	1		01/21/15 17:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		01/21/15 17:37	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/15 17:37	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/15 17:37	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 17:37	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	0.35	1		01/21/15 17:37	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/15 17:37	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		01/21/15 17:37	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/15 17:37	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		01/21/15 17:37	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	0.19	1		01/21/15 17:37	76-13-1	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/15 17:37	75-01-4	
m&p-Xylene	ND ug/L		2.0	0.66	1		01/21/15 17:37	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		01/21/15 17:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		01/21/15 17:37	460-00-4	
1,2-Dichloroethane-d4 (S)	95 %		70-130		1		01/21/15 17:37	17060-07-0	
Toluene-d8 (S)	94 %		70-130		1		01/21/15 17:37	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10A		Lab ID: 92233653003		Collected: 01/15/15 10:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:47	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/16/15 14:30	01/21/15 20:47	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/16/15 14:30	01/21/15 20:47	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 20:47	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/16/15 14:30	01/21/15 20:47	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/16/15 14:30	01/21/15 20:47	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 20:47	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/16/15 14:30	01/21/15 20:47	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/16/15 14:30	01/21/15 20:47	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/16/15 14:30	01/21/15 20:47	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:47	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/16/15 14:30	01/21/15 20:47	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/16/15 14:30	01/21/15 20:47	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:47	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:47	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/16/15 14:30	01/21/15 20:47	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 20:47	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 20:47	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/16/15 14:30	01/21/15 20:47	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:47	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:47	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:47	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/16/15 14:30	01/21/15 20:47	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:47	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/16/15 14:30	01/21/15 20:47	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/16/15 14:30	01/21/15 20:47	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/16/15 14:30	01/21/15 20:47	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/16/15 14:30	01/21/15 20:47	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/16/15 14:30	01/21/15 20:47	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/16/15 14:30	01/21/15 20:47	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 20:47	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/16/15 14:30	01/21/15 20:47	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/16/15 14:30	01/21/15 20:47	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/16/15 14:30	01/21/15 20:47	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/16/15 14:30	01/21/15 20:47	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 20:47	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/16/15 14:30	01/21/15 20:47	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:47	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 20:47	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:47	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 20:47	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10A		Lab ID: 92233653003		Collected: 01/15/15 10:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47		
Naphthalene	ND	ug/L	10.0	0.93	1	01/16/15 14:30	01/21/15 20:47	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/16/15 14:30	01/21/15 20:47	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/16/15 14:30	01/21/15 20:47	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 20:47	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/16/15 14:30	01/21/15 20:47	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/16/15 14:30	01/21/15 20:47	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:47	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/16/15 14:30	01/21/15 20:47	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/16/15 14:30	01/21/15 20:47	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/16/15 14:30	01/21/15 20:47	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 20:47	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 20:47	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 20:47	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 20:47	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/16/15 14:30	01/21/15 20:47	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 20:47	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 20:47	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	45 %		21-110		1	01/16/15 14:30	01/21/15 20:47	4165-60-0	
2-Fluorobiphenyl (S)	46 %		27-110		1	01/16/15 14:30	01/21/15 20:47	321-60-8	
Terphenyl-d14 (S)	83 %		31-107		1	01/16/15 14:30	01/21/15 20:47	1718-51-0	
Phenol-d6 (S)	16 %		10-110		1	01/16/15 14:30	01/21/15 20:47	13127-88-3	
2-Fluorophenol (S)	26 %		12-110		1	01/16/15 14:30	01/21/15 20:47	367-12-4	
2,4,6-Tribromophenol (S)	61 %		27-110		1	01/16/15 14:30	01/21/15 20:47	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/21/15 17:54	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/21/15 17:54	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/21/15 17:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/21/15 17:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/21/15 17:54	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/21/15 17:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/21/15 17:54	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/21/15 17:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/21/15 17:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/21/15 17:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/21/15 17:54	75-00-3	LO
Chloroform	ND	ug/L	1.0	0.14	1		01/21/15 17:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/21/15 17:54	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/21/15 17:54	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/21/15 17:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/21/15 17:54	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-10A		Lab ID: 92233653003		Collected: 01/15/15 10:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		01/21/15 17:54	106-93-4	
1,2-Dichlorobenzene	ND ug/L		1.0	0.30	1		01/21/15 17:54	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	0.24	1		01/21/15 17:54	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 17:54	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	0.21	1		01/21/15 17:54	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	0.32	1		01/21/15 17:54	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		01/21/15 17:54	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/15 17:54	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/15 17:54	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/15 17:54	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		01/21/15 17:54	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		01/21/15 17:54	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		01/21/15 17:54	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND ug/L		150	78.4	1		01/21/15 17:54	123-91-1	
Ethylbenzene	ND ug/L		1.0	0.30	1		01/21/15 17:54	100-41-4	
2-Hexanone	ND ug/L		5.0	0.46	1		01/21/15 17:54	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	0.40	1		01/21/15 17:54	98-82-8	
Methyl acetate	ND ug/L		10.0	0.82	1		01/21/15 17:54	79-20-9	
Methylcyclohexane	ND ug/L		10.0	1.9	1		01/21/15 17:54	108-87-2	
Methylene Chloride	ND ug/L		2.0	0.97	1		01/21/15 17:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	0.33	1		01/21/15 17:54	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	0.21	1		01/21/15 17:54	1634-04-4	
Styrene	ND ug/L		1.0	0.26	1		01/21/15 17:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		01/21/15 17:54	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/15 17:54	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/15 17:54	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 17:54	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	0.35	1		01/21/15 17:54	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/15 17:54	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		01/21/15 17:54	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/15 17:54	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		01/21/15 17:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	0.19	1		01/21/15 17:54	76-13-1	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/15 17:54	75-01-4	
m&p-Xylene	ND ug/L		2.0	0.66	1		01/21/15 17:54	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		01/21/15 17:54	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96 %		70-130		1		01/21/15 17:54	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		70-130		1		01/21/15 17:54	17060-07-0	
Toluene-d8 (S)	93 %		70-130		1		01/21/15 17:54	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11		Lab ID: 92233653004		Collected: 01/15/15 11:35		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:19	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/16/15 14:30	01/21/15 21:19	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/16/15 14:30	01/21/15 21:19	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 21:19	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/16/15 14:30	01/21/15 21:19	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/16/15 14:30	01/21/15 21:19	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 21:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/16/15 14:30	01/21/15 21:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/16/15 14:30	01/21/15 21:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/16/15 14:30	01/21/15 21:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:19	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/16/15 14:30	01/21/15 21:19	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/16/15 14:30	01/21/15 21:19	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:19	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:19	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/16/15 14:30	01/21/15 21:19	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 21:19	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 21:19	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/16/15 14:30	01/21/15 21:19	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:19	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:19	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/16/15 14:30	01/21/15 21:19	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:19	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/16/15 14:30	01/21/15 21:19	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/16/15 14:30	01/21/15 21:19	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/16/15 14:30	01/21/15 21:19	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/16/15 14:30	01/21/15 21:19	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/16/15 14:30	01/21/15 21:19	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/16/15 14:30	01/21/15 21:19	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 21:19	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/16/15 14:30	01/21/15 21:19	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/16/15 14:30	01/21/15 21:19	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/16/15 14:30	01/21/15 21:19	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/16/15 14:30	01/21/15 21:19	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 21:19	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/16/15 14:30	01/21/15 21:19	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:19	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 21:19	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:19	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 21:19	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11		Lab ID: 92233653004		Collected: 01/15/15 11:35		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19		
Naphthalene	ND	ug/L	10.0	0.93	1	01/16/15 14:30	01/21/15 21:19	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/16/15 14:30	01/21/15 21:19	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/16/15 14:30	01/21/15 21:19	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 21:19	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/16/15 14:30	01/21/15 21:19	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/16/15 14:30	01/21/15 21:19	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:19	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/16/15 14:30	01/21/15 21:19	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/16/15 14:30	01/21/15 21:19	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/16/15 14:30	01/21/15 21:19	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:19	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:19	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:19	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 21:19	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/16/15 14:30	01/21/15 21:19	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:19	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:19	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	45 %		21-110		1	01/16/15 14:30	01/21/15 21:19	4165-60-0	
2-Fluorobiphenyl (S)	47 %		27-110		1	01/16/15 14:30	01/21/15 21:19	321-60-8	
Terphenyl-d14 (S)	81 %		31-107		1	01/16/15 14:30	01/21/15 21:19	1718-51-0	
Phenol-d6 (S)	16 %		10-110		1	01/16/15 14:30	01/21/15 21:19	13127-88-3	
2-Fluorophenol (S)	26 %		12-110		1	01/16/15 14:30	01/21/15 21:19	367-12-4	
2,4,6-Tribromophenol (S)	52 %		27-110		1	01/16/15 14:30	01/21/15 21:19	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/21/15 18:10	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/21/15 18:10	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/21/15 18:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/21/15 18:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/21/15 18:10	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/21/15 18:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/21/15 18:10	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/21/15 18:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/21/15 18:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/21/15 18:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/21/15 18:10	75-00-3	LO
Chloroform	ND	ug/L	1.0	0.14	1		01/21/15 18:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/21/15 18:10	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/21/15 18:10	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/21/15 18:10	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/21/15 18:10	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11		Lab ID: 92233653004		Collected: 01/15/15 11:35		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		01/21/15 18:10	106-93-4	
1,2-Dichlorobenzene	ND ug/L		1.0	0.30	1		01/21/15 18:10	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	0.24	1		01/21/15 18:10	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 18:10	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	0.21	1		01/21/15 18:10	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	0.32	1		01/21/15 18:10	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		01/21/15 18:10	107-06-2	
1,1-Dichloroethene	ND ug/L		1.0	0.56	1		01/21/15 18:10	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	0.19	1		01/21/15 18:10	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	0.49	1		01/21/15 18:10	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		01/21/15 18:10	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		01/21/15 18:10	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		01/21/15 18:10	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND ug/L		150	78.4	1		01/21/15 18:10	123-91-1	
Ethylbenzene	ND ug/L		1.0	0.30	1		01/21/15 18:10	100-41-4	
2-Hexanone	ND ug/L		5.0	0.46	1		01/21/15 18:10	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	0.40	1		01/21/15 18:10	98-82-8	
Methyl acetate	ND ug/L		10.0	0.82	1		01/21/15 18:10	79-20-9	
Methylcyclohexane	ND ug/L		10.0	1.9	1		01/21/15 18:10	108-87-2	
Methylene Chloride	ND ug/L		2.0	0.97	1		01/21/15 18:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		5.0	0.33	1		01/21/15 18:10	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	0.21	1		01/21/15 18:10	1634-04-4	
Styrene	ND ug/L		1.0	0.26	1		01/21/15 18:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	0.40	1		01/21/15 18:10	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		01/21/15 18:10	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		01/21/15 18:10	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	0.33	1		01/21/15 18:10	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	0.35	1		01/21/15 18:10	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		01/21/15 18:10	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		01/21/15 18:10	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		01/21/15 18:10	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		01/21/15 18:10	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND ug/L		1.0	0.19	1		01/21/15 18:10	76-13-1	
Vinyl chloride	ND ug/L		1.0	0.62	1		01/21/15 18:10	75-01-4	
m&p-Xylene	ND ug/L		2.0	0.66	1		01/21/15 18:10	179601-23-1	
o-Xylene	ND ug/L		1.0	0.23	1		01/21/15 18:10	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97 %		70-130		1		01/21/15 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		70-130		1		01/21/15 18:10	17060-07-0	
Toluene-d8 (S)	93 %		70-130		1		01/21/15 18:10	2037-26-5	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11A		Lab ID: 92233653005		Collected: 01/15/15 12:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:57	83-32-9	
Acenaphthylene	ND	ug/L	10.0	0.99	1	01/16/15 14:30	01/21/15 21:57	208-96-8	
Acetophenone	ND	ug/L	10.0	0.83	1	01/16/15 14:30	01/21/15 21:57	98-86-2	
Anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 21:57	120-12-7	
Atrazine	ND	ug/L	20.0	0.67	1	01/16/15 14:30	01/21/15 21:57	1912-24-9	
Benzaldehyde	ND	ug/L	20.0	4.7	1	01/16/15 14:30	01/21/15 21:57	100-52-7	
Benzo(a)anthracene	ND	ug/L	10.0	0.47	1	01/16/15 14:30	01/21/15 21:57	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	0.57	1	01/16/15 14:30	01/21/15 21:57	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	0.44	1	01/16/15 14:30	01/21/15 21:57	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	0.45	1	01/16/15 14:30	01/21/15 21:57	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:57	207-08-9	
Biphenyl (Diphenyl)	ND	ug/L	10.0	0.94	1	01/16/15 14:30	01/21/15 21:57	92-52-4	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	0.48	1	01/16/15 14:30	01/21/15 21:57	85-68-7	
Caprolactam	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:57	105-60-2	
Carbazole	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:57	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	2.0	1	01/16/15 14:30	01/21/15 21:57	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 21:57	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 21:57	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	0.89	1	01/16/15 14:30	01/21/15 21:57	111-44-4	
2-Chloronaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:57	7005-72-3	
Chrysene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:57	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:57	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	132-64-9	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	0.69	1	01/16/15 14:30	01/21/15 21:57	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:57	120-83-2	
Diethylphthalate	ND	ug/L	10.0	0.91	1	01/16/15 14:30	01/21/15 21:57	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	0.96	1	01/16/15 14:30	01/21/15 21:57	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	0.62	1	01/16/15 14:30	01/21/15 21:57	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	0.37	1	01/16/15 14:30	01/21/15 21:57	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	20.0	1.1	1	01/16/15 14:30	01/21/15 21:57	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	2.5	1	01/16/15 14:30	01/21/15 21:57	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 21:57	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	2.1	1	01/16/15 14:30	01/21/15 21:57	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	0.12	1	01/16/15 14:30	01/21/15 21:57	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	6.0	0.49	1	01/16/15 14:30	01/21/15 21:57	117-81-7	
Fluoranthene	ND	ug/L	10.0	0.41	1	01/16/15 14:30	01/21/15 21:57	206-44-0	
Fluorene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 21:57	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	0.76	1	01/16/15 14:30	01/21/15 21:57	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:57	77-47-4	
Hexachloroethane	ND	ug/L	10.0	0.90	1	01/16/15 14:30	01/21/15 21:57	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:57	193-39-5	
Isophorone	ND	ug/L	10.0	0.92	1	01/16/15 14:30	01/21/15 21:57	78-59-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11A		Lab ID: 92233653005		Collected: 01/15/15 12:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57		
Naphthalene	ND	ug/L	10.0	0.93	1	01/16/15 14:30	01/21/15 21:57	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1.5	1	01/16/15 14:30	01/21/15 21:57	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1.3	1	01/16/15 14:30	01/21/15 21:57	99-09-2	
4-Nitroaniline	ND	ug/L	20.0	1.6	1	01/16/15 14:30	01/21/15 21:57	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	0.71	1	01/16/15 14:30	01/21/15 21:57	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	3.9	1	01/16/15 14:30	01/21/15 21:57	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:57	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	0.64	1	01/16/15 14:30	01/21/15 21:57	86-30-6	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	10.0	0.56	1	01/16/15 14:30	01/21/15 21:57	108-60-1	
Pentachlorophenol	ND	ug/L	25.0	1.2	1	01/16/15 14:30	01/21/15 21:57	87-86-5	
Phenanthrene	ND	ug/L	10.0	0.53	1	01/16/15 14:30	01/21/15 21:57	85-01-8	
Phenol	ND	ug/L	10.0	1.1	1	01/16/15 14:30	01/21/15 21:57	108-95-2	
Pyrene	ND	ug/L	10.0	0.49	1	01/16/15 14:30	01/21/15 21:57	129-00-0	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10.0	1.3	1	01/16/15 14:30	01/21/15 21:57	95-94-3	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10.0	1.6	1	01/16/15 14:30	01/21/15 21:57	58-90-2	
2,4,5-Trichlorophenol	ND	ug/L	10.0	1.0	1	01/16/15 14:30	01/21/15 21:57	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	0.85	1	01/16/15 14:30	01/21/15 21:57	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	45 %		21-110		1	01/16/15 14:30	01/21/15 21:57	4165-60-0	
2-Fluorobiphenyl (S)	49 %		27-110		1	01/16/15 14:30	01/21/15 21:57	321-60-8	
Terphenyl-d14 (S)	78 %		31-107		1	01/16/15 14:30	01/21/15 21:57	1718-51-0	
Phenol-d6 (S)	17 %		10-110		1	01/16/15 14:30	01/21/15 21:57	13127-88-3	
2-Fluorophenol (S)	26 %		12-110		1	01/16/15 14:30	01/21/15 21:57	367-12-4	
2,4,6-Tribromophenol (S)	55 %		27-110		1	01/16/15 14:30	01/21/15 21:57	118-79-6	
8260 MSV Low Level		Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	10.0	1		01/21/15 18:27	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		01/21/15 18:27	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.17	1		01/21/15 18:27	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		01/21/15 18:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		01/21/15 18:27	75-25-2	
Bromomethane	ND	ug/L	2.0	0.29	1		01/21/15 18:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		01/21/15 18:27	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		01/21/15 18:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		01/21/15 18:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		01/21/15 18:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		01/21/15 18:27	75-00-3	LO
Chloroform	ND	ug/L	1.0	0.14	1		01/21/15 18:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		01/21/15 18:27	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		01/21/15 18:27	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	2.0	1		01/21/15 18:27	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		01/21/15 18:27	124-48-1	

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ANALYTICAL RESULTS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Sample: MW-11A		Lab ID: 92233653005		Collected: 01/15/15 12:15		Received: 01/15/15 16:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level		Analytical Method: EPA 8260							
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		01/21/15 18:27	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		01/21/15 18:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		01/21/15 18:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		01/21/15 18:27	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		01/21/15 18:27	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		01/21/15 18:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/21/15 18:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		01/21/15 18:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		01/21/15 18:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		01/21/15 18:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		01/21/15 18:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		01/21/15 18:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		01/21/15 18:27	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/L	150	78.4	1		01/21/15 18:27	123-91-1	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/21/15 18:27	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		01/21/15 18:27	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		01/21/15 18:27	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		01/21/15 18:27	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		01/21/15 18:27	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		01/21/15 18:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		01/21/15 18:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/21/15 18:27	1634-04-4	
Styrene	ND	ug/L	1.0	0.26	1		01/21/15 18:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		01/21/15 18:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		01/21/15 18:27	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		01/21/15 18:27	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	0.33	1		01/21/15 18:27	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		01/21/15 18:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		01/21/15 18:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		01/21/15 18:27	79-00-5	
Trichloroethene	2.4	ug/L	1.0	0.47	1		01/21/15 18:27	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		01/21/15 18:27	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		01/21/15 18:27	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		01/21/15 18:27	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/21/15 18:27	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/21/15 18:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98 %		70-130		1		01/21/15 18:27	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		70-130		1		01/21/15 18:27	17060-07-0	
Toluene-d8 (S)	93 %		70-130		1		01/21/15 18:27	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

QC Batch:	MSV/30047	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level
Associated Lab Samples:	92233653001, 92233653002, 92233653003, 92233653004, 92233653005		

METHOD BLANK:	1374072	Matrix:	Water
Associated Lab Samples:	92233653001, 92233653002, 92233653003, 92233653004, 92233653005		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	01/21/15 11:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	01/21/15 11:12	
1,1,2-Trichloroethane	ug/L	ND	1.0	01/21/15 11:12	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	01/21/15 11:12	
1,1-Dichloroethane	ug/L	ND	1.0	01/21/15 11:12	
1,1-Dichloroethene	ug/L	ND	1.0	01/21/15 11:12	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	01/21/15 11:12	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	01/21/15 11:12	
1,2-Dichlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
1,2-Dichloroethane	ug/L	ND	1.0	01/21/15 11:12	
1,2-Dichloropropane	ug/L	ND	1.0	01/21/15 11:12	
1,3-Dichlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
1,4-Dioxane (p-Dioxane)	ug/L	ND	150	01/21/15 11:12	
2-Butanone (MEK)	ug/L	ND	5.0	01/21/15 11:12	
2-Hexanone	ug/L	ND	5.0	01/21/15 11:12	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	01/21/15 11:12	
Acetone	ug/L	ND	25.0	01/21/15 11:12	
Benzene	ug/L	ND	1.0	01/21/15 11:12	
Bromochloromethane	ug/L	ND	1.0	01/21/15 11:12	
Bromodichloromethane	ug/L	ND	1.0	01/21/15 11:12	
Bromoform	ug/L	ND	1.0	01/21/15 11:12	
Bromomethane	ug/L	ND	2.0	01/21/15 11:12	
Carbon disulfide	ug/L	ND	2.0	01/21/15 11:12	
Carbon tetrachloride	ug/L	ND	1.0	01/21/15 11:12	
Chlorobenzene	ug/L	ND	1.0	01/21/15 11:12	
Chloroethane	ug/L	ND	1.0	01/21/15 11:12	
Chloroform	ug/L	ND	1.0	01/21/15 11:12	
Chloromethane	ug/L	ND	1.0	01/21/15 11:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	01/21/15 11:12	
cis-1,3-Dichloropropene	ug/L	ND	1.0	01/21/15 11:12	
Cyclohexane	ug/L	ND	1.0	01/21/15 11:12	
Dibromochloromethane	ug/L	ND	1.0	01/21/15 11:12	
Dichlorodifluoromethane	ug/L	ND	1.0	01/21/15 11:12	
Ethylbenzene	ug/L	ND	1.0	01/21/15 11:12	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	01/21/15 11:12	
m&p-Xylene	ug/L	ND	2.0	01/21/15 11:12	
Methyl acetate	ug/L	ND	10.0	01/21/15 11:12	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/21/15 11:12	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

METHOD BLANK: 1374072

Matrix: Water

Associated Lab Samples: 92233653001, 92233653002, 92233653003, 92233653004, 92233653005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylcyclohexane	ug/L	ND	10.0	01/21/15 11:12	
Methylene Chloride	ug/L	ND	2.0	01/21/15 11:12	
o-Xylene	ug/L	ND	1.0	01/21/15 11:12	
Styrene	ug/L	ND	1.0	01/21/15 11:12	
Tetrachloroethene	ug/L	ND	1.0	01/21/15 11:12	
Toluene	ug/L	ND	1.0	01/21/15 11:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	01/21/15 11:12	
trans-1,3-Dichloropropene	ug/L	ND	1.0	01/21/15 11:12	
Trichloroethene	ug/L	ND	1.0	01/21/15 11:12	
Trichlorofluoromethane	ug/L	ND	1.0	01/21/15 11:12	
Vinyl chloride	ug/L	ND	1.0	01/21/15 11:12	
1,2-Dichloroethane-d4 (S)	%	95	70-130	01/21/15 11:12	
4-Bromofluorobenzene (S)	%	106	70-130	01/21/15 11:12	
Toluene-d8 (S)	%	93	70-130	01/21/15 11:12	

LABORATORY CONTROL SAMPLE: 1374073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	48.3	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	47.7	95	70-130	
1,1,2-Trichloroethane	ug/L	50	51.5	103	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	50	52.2	104	70-130	
1,1-Dichloroethane	ug/L	50	45.5	91	70-130	
1,1-Dichloroethene	ug/L	50	46.4	93	70-132	
1,2,3-Trichlorobenzene	ug/L	50	51.1	102	70-135	
1,2,4-Trichlorobenzene	ug/L	50	54.7	109	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	53.4	107	70-130	
1,2-Dichlorobenzene	ug/L	50	52.9	106	70-130	
1,2-Dichloroethane	ug/L	50	46.0	92	70-130	
1,2-Dichloropropane	ug/L	50	45.9	92	70-130	
1,3-Dichlorobenzene	ug/L	50	52.4	105	70-130	
1,4-Dichlorobenzene	ug/L	50	52.3	105	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	1000	1090	109	71-125	
2-Butanone (MEK)	ug/L	100	103	103	70-145	
2-Hexanone	ug/L	100	109	109	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	70-140	
Acetone	ug/L	100	104	104	50-175	
Benzene	ug/L	50	48.5	97	70-130	
Bromochloromethane	ug/L	50	52.8	106	70-130	
Bromodichloromethane	ug/L	50	48.2	96	70-130	
Bromoform	ug/L	50	49.1	98	70-130	
Bromomethane	ug/L	50	30.6	61	54-130	
Carbon disulfide	ug/L	50	47.0	94	70-131	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

LABORATORY CONTROL SAMPLE: 1374073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	53.7	107	70-132	
Chlorobenzene	ug/L	50	49.0	98	70-130	
Chloroethane	ug/L	50	30.6	61	64-134	L0
Chloroform	ug/L	50	42.4	85	70-130	
Chloromethane	ug/L	50	41.0	82	64-130	
cis-1,2-Dichloroethene	ug/L	50	47.9	96	70-131	
cis-1,3-Dichloropropene	ug/L	50	51.2	102	70-130	
Cyclohexane	ug/L	50	48.7	97	70-130	
Dibromochloromethane	ug/L	50	47.6	95	70-130	
Dichlorodifluoromethane	ug/L	50	48.7	97	56-130	
Ethylbenzene	ug/L	50	48.5	97	70-130	
Isopropylbenzene (Cumene)	ug/L	50	49.7	99	70-130	
m&p-Xylene	ug/L	100	95.6	96	70-130	
Methyl acetate	ug/L	50	51.3	103	70-130	
Methyl-tert-butyl ether	ug/L	50	45.8	92	70-130	
Methylcyclohexane	ug/L	50	46.3	93	70-130	
Methylene Chloride	ug/L	50	52.0	104	63-130	
o-Xylene	ug/L	50	49.4	99	70-130	
Styrene	ug/L	50	53.0	106	70-130	
Tetrachloroethene	ug/L	50	51.6	103	70-130	
Toluene	ug/L	50	48.5	97	70-130	
trans-1,2-Dichloroethene	ug/L	50	46.0	92	70-130	
trans-1,3-Dichloropropene	ug/L	50	53.1	106	70-132	
Trichloroethene	ug/L	50	50.7	101	70-130	
Trichlorofluoromethane	ug/L	50	48.4	97	62-133	
Vinyl chloride	ug/L	50	41.4	83	50-150	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1374075

Parameter	Units	92233686005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	21.5	108	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.0	99	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	20.8	104	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	24.5	123	70-130	
1,1-Dichloroethane	ug/L	ND	20	19.5	97	70-130	
1,1-Dichloroethene	ug/L	ND	20	19.1	95	70-166	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.7	108	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	22.8	114	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20.3	101	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	110	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.2	111	70-130	
1,2-Dichloroethane	ug/L	0.17J	20	18.5	92	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

MATRIX SPIKE SAMPLE:		1374075					
Parameter	Units	92233686005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	ND	20	19.0	95	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	22.1	110	70-130	
1,4-Dichlorobenzene	ug/L	ND	20	21.8	109	70-130	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	697	174	70-130	MO
2-Butanone (MEK)	ug/L	ND	40	40.7	102	70-130	
2-Hexanone	ug/L	0.80J	40	46.0	113	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	43.6	109	70-130	
Acetone	ug/L	17.7J	40	54.7	92	70-130	
Benzene	ug/L	ND	20	21.2	106	70-148	
Bromochloromethane	ug/L	ND	20	22.9	115	70-130	
Bromodichloromethane	ug/L	ND	20	18.7	93	70-130	
Bromoform	ug/L	ND	20	19.7	99	70-130	
Bromomethane	ug/L	ND	20	9.6	48	70-130	MO
Carbon disulfide	ug/L	ND	20	19.7	98	70-130	
Carbon tetrachloride	ug/L	ND	20	23.2	116	70-130	
Chlorobenzene	ug/L	ND	20	21.5	108	70-146	
Chloroethane	ug/L	ND	20	16.4	82	70-130	
Chloroform	ug/L	ND	20	18.2	91	70-130	
Chloromethane	ug/L	0.91J	20	15.2	71	70-130	
cis-1,2-Dichloroethene	ug/L	2.2	20	22.7	102	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	18.1	90	70-130	
Cyclohexane	ug/L	ND	20	23.4	116	70-130	
Dibromochloromethane	ug/L	ND	20	19.3	96	70-130	
Dichlorodifluoromethane	ug/L	ND	20	15.7	79	70-130	
Ethylbenzene	ug/L	0.39J	20	21.9	108	70-130	
Isopropylbenzene (Cumene)	ug/L	ND	20	22.5	111	70-130	
m&p-Xylene	ug/L	ND	40	43.1	107	70-130	
Methyl acetate	ug/L	ND	20	33.6	168	70-130	MO
Methyl-tert-butyl ether	ug/L	ND	20	19.0	94	70-130	
Methylcyclohexane	ug/L	ND	20	20.4	102	70-130	
Methylene Chloride	ug/L	ND	20	20.8	104	70-130	
o-Xylene	ug/L	ND	20	21.6	108	70-130	
Styrene	ug/L	ND	20	23.0	115	70-130	
Tetrachloroethene	ug/L	ND	20	22.9	114	70-130	
Toluene	ug/L	1.2	20	21.9	104	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	20.1	101	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	19.2	96	70-130	
Trichloroethene	ug/L	ND	20	22.4	112	69-151	
Trichlorofluoromethane	ug/L	ND	20	21.8	109	70-130	
Vinyl chloride	ug/L	ND	20	16.7	84	70-130	
1,2-Dichloroethane-d4 (S)	%				94	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				94	70-130	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

SAMPLE DUPLICATE: 1374074

Parameter	Units	92233686004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	0.28J	0.33J		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	2.7	2.6	2	30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	4.3	4.2	2	30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	2.9	2.9	2	30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Cyclohexane	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Isopropylbenzene (Cumene)	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl acetate	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylcyclohexane	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	0.70J	0.83J		30	
Toluene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

SAMPLE DUPLICATE: 1374074

Parameter	Units	92233686004 Result	Dup Result	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	5.7	5.5	4	30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	93	95	3		
4-Bromofluorobenzene (S)	%	97	98	1		
Toluene-d8 (S)	%	93	92	1		

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

QC Batch: OEXT/32353 Analysis Method: EPA 8270
QC Batch Method: EPA 3510 Analysis Description: 8270 Water MSSV
Associated Lab Samples: 92233653002, 92233653003, 92233653004, 92233653005

METHOD BLANK: 1372240 Matrix: Water
Associated Lab Samples: 92233653002, 92233653003, 92233653004, 92233653005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	ND	10.0	01/21/15 14:44	
2,2'-Oxybis(1-chloropropane)	ug/L	ND	10.0	01/21/15 14:44	
2,3,4,6-Tetrachlorophenol	ug/L	ND	10.0	01/21/15 14:44	
2,4,5-Trichlorophenol	ug/L	ND	10.0	01/21/15 14:44	
2,4,6-Trichlorophenol	ug/L	ND	10.0	01/21/15 14:44	
2,4-Dichlorophenol	ug/L	ND	10.0	01/21/15 14:44	
2,4-Dimethylphenol	ug/L	ND	10.0	01/21/15 14:44	
2,4-Dinitrophenol	ug/L	ND	50.0	01/21/15 14:44	
2,4-Dinitrotoluene	ug/L	ND	10.0	01/21/15 14:44	
2,6-Dinitrotoluene	ug/L	ND	10.0	01/21/15 14:44	
2-Chloronaphthalene	ug/L	ND	10.0	01/21/15 14:44	
2-Chlorophenol	ug/L	ND	10.0	01/21/15 14:44	
2-Methylnaphthalene	ug/L	ND	10.0	01/21/15 14:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	01/21/15 14:44	
2-Nitroaniline	ug/L	ND	50.0	01/21/15 14:44	
2-Nitrophenol	ug/L	ND	10.0	01/21/15 14:44	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	01/21/15 14:44	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	01/21/15 14:44	
3-Nitroaniline	ug/L	ND	50.0	01/21/15 14:44	
4,6-Dinitro-2-methylphenol	ug/L	ND	20.0	01/21/15 14:44	
4-Bromophenylphenyl ether	ug/L	ND	10.0	01/21/15 14:44	
4-Chloro-3-methylphenol	ug/L	ND	20.0	01/21/15 14:44	
4-Chloroaniline	ug/L	ND	20.0	01/21/15 14:44	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	01/21/15 14:44	
4-Nitroaniline	ug/L	ND	20.0	01/21/15 14:44	
4-Nitrophenol	ug/L	ND	50.0	01/21/15 14:44	
Acenaphthene	ug/L	ND	10.0	01/21/15 14:44	
Acenaphthylene	ug/L	ND	10.0	01/21/15 14:44	
Acetophenone	ug/L	ND	10.0	01/21/15 14:44	
Anthracene	ug/L	ND	10.0	01/21/15 14:44	
Atrazine	ug/L	ND	20.0	01/21/15 14:44	
Benzaldehyde	ug/L	ND	20.0	01/21/15 14:44	
Benzo(a)anthracene	ug/L	ND	10.0	01/21/15 14:44	
Benzo(a)pyrene	ug/L	ND	10.0	01/21/15 14:44	
Benzo(b)fluoranthene	ug/L	ND	10.0	01/21/15 14:44	
Benzo(g,h,i)perylene	ug/L	ND	10.0	01/21/15 14:44	
Benzo(k)fluoranthene	ug/L	ND	10.0	01/21/15 14:44	
Biphenyl (Diphenyl)	ug/L	ND	10.0	01/21/15 14:44	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	01/21/15 14:44	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	01/21/15 14:44	
bis(2-Ethylhexyl)phthalate	ug/L	ND	6.0	01/21/15 14:44	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

METHOD BLANK: 1372240

Matrix: Water

Associated Lab Samples: 92233653002, 92233653003, 92233653004, 92233653005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	10.0	01/21/15 14:44	
Caprolactam	ug/L	ND	10.0	01/21/15 14:44	
Carbazole	ug/L	ND	10.0	01/21/15 14:44	
Chrysene	ug/L	ND	10.0	01/21/15 14:44	
Di-n-butylphthalate	ug/L	ND	10.0	01/21/15 14:44	
Di-n-octylphthalate	ug/L	ND	10.0	01/21/15 14:44	
Dibenz(a,h)anthracene	ug/L	ND	10.0	01/21/15 14:44	
Dibenzofuran	ug/L	ND	10.0	01/21/15 14:44	
Diethylphthalate	ug/L	ND	10.0	01/21/15 14:44	
Dimethylphthalate	ug/L	ND	10.0	01/21/15 14:44	
Fluoranthene	ug/L	ND	10.0	01/21/15 14:44	
Fluorene	ug/L	ND	10.0	01/21/15 14:44	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	01/21/15 14:44	
Hexachlorobenzene	ug/L	ND	10.0	01/21/15 14:44	
Hexachlorocyclopentadiene	ug/L	ND	10.0	01/21/15 14:44	
Hexachloroethane	ug/L	ND	10.0	01/21/15 14:44	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	01/21/15 14:44	
Isophorone	ug/L	ND	10.0	01/21/15 14:44	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	01/21/15 14:44	
N-Nitrosodiphenylamine	ug/L	ND	10.0	01/21/15 14:44	
Naphthalene	ug/L	ND	10.0	01/21/15 14:44	
Nitrobenzene	ug/L	ND	10.0	01/21/15 14:44	
Pentachlorophenol	ug/L	ND	25.0	01/21/15 14:44	
Phenanthrene	ug/L	ND	10.0	01/21/15 14:44	
Phenol	ug/L	ND	10.0	01/21/15 14:44	
Pyrene	ug/L	ND	10.0	01/21/15 14:44	
2,4,6-Tribromophenol (S)	%	56	27-110	01/21/15 14:44	
2-Fluorobiphenyl (S)	%	49	27-110	01/21/15 14:44	
2-Fluorophenol (S)	%	27	12-110	01/21/15 14:44	
Nitrobenzene-d5 (S)	%	48	21-110	01/21/15 14:44	
Phenol-d6 (S)	%	17	10-110	01/21/15 14:44	
Terphenyl-d14 (S)	%	78	31-107	01/21/15 14:44	

LABORATORY CONTROL SAMPLE: 1372241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	50	25.9	52	16-129	
2,2'-Oxybis(1-chloropropane)	ug/L	50	17.3	35	18-120	
2,3,4,6-Tetrachlorophenol	ug/L	50	88.1	176	54-276	
2,4,5-Trichlorophenol	ug/L	50	38.5	77	43-113	
2,4,6-Trichlorophenol	ug/L	50	31.3	63	42-120	
2,4-Dichlorophenol	ug/L	50	23.4	47	30-120	
2,4-Dimethylphenol	ug/L	50	22.4	45	29-111	
2,4-Dinitrophenol	ug/L	250	195	78	19-132	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

LABORATORY CONTROL SAMPLE: 1372241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	ug/L	50	48.2	96	58-128	
2,6-Dinitrotoluene	ug/L	50	46.9	94	54-129	
2-Chloronaphthalene	ug/L	50	30.5	61	43-117	
2-Chlorophenol	ug/L	50	23.1	46	37-120	
2-Methylnaphthalene	ug/L	50	22.1	44	33-120	
2-Methylphenol(o-Cresol)	ug/L	50	19.9	40	31-120	
2-Nitroaniline	ug/L	100	70.8	71	48-121	
2-Nitrophenol	ug/L	50	23.4	47	25-116	
3&4-Methylphenol(m&p Cresol)	ug/L	50	18.0	36	23-120	
3,3'-Dichlorobenzidine	ug/L	250	89.4	36	10-154	
3-Nitroaniline	ug/L	100	86.4	86	43-115	
4,6-Dinitro-2-methylphenol	ug/L	100	92.3	92	44-124	
4-Bromophenylphenyl ether	ug/L	50	43.4	87	34-113	
4-Chloro-3-methylphenol	ug/L	100	60.0	60	31-110	
4-Chloroaniline	ug/L	100	47.3	47	20-120	
4-Chlorophenylphenyl ether	ug/L	50	39.6	79	34-116	
4-Nitroaniline	ug/L	100	93.4	93	46-128	
4-Nitrophenol	ug/L	250	94.1	38	11-120	
Acenaphthene	ug/L	50	33.8	68	48-114	
Acenaphthylene	ug/L	50	34.1	68	48-112	
Acetophenone	ug/L	50	26.4	53	24-120	
Anthracene	ug/L	50	45.0	90	57-118	
Atrazine	ug/L	50	54.9	110	33-160	
Benzaldehyde	ug/L	50	ND	2	10-120	L2
Benzo(a)anthracene	ug/L	50	45.5	91	56-121	
Benzo(a)pyrene	ug/L	50	49.8	100	55-127	
Benzo(b)fluoranthene	ug/L	50	51.1	102	53-128	
Benzo(g,h,i)perylene	ug/L	50	47.0	94	54-125	
Benzo(k)fluoranthene	ug/L	50	41.7	83	51-123	
Biphenyl (Diphenyl)	ug/L	50	27.3	55	38-120	
bis(2-Chloroethoxy)methane	ug/L	50	26.3	53	32-120	
bis(2-Chloroethyl) ether	ug/L	50	24.4	49	33-111	
bis(2-Ethylhexyl)phthalate	ug/L	50	51.3	103	50-145	
Butylbenzylphthalate	ug/L	50	51.2	102	54-138	
Caprolactam	ug/L	50	14.5	29	10-115	
Carbazole	ug/L	50	44.4	89	59-119	
Chrysene	ug/L	50	46.3	93	58-127	
Di-n-butylphthalate	ug/L	50	50.0	100	56-125	
Di-n-octylphthalate	ug/L	50	49.2	98	50-134	
Dibenz(a,h)anthracene	ug/L	50	49.1	98	53-129	
Dibenzofuran	ug/L	50	36.7	73	45-120	
Diethylphthalate	ug/L	50	47.8	96	53-120	
Dimethylphthalate	ug/L	50	43.6	87	55-116	
Fluoranthene	ug/L	50	49.7	99	57-125	
Fluorene	ug/L	50	41.9	84	53-118	
Hexachloro-1,3-butadiene	ug/L	50	18.5	37	23-120	
Hexachlorobenzene	ug/L	50	44.5	89	49-116	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

LABORATORY CONTROL SAMPLE: 1372241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachlorocyclopentadiene	ug/L	50	23.3	47	26-158	
Hexachloroethane	ug/L	50	21.7	43	30-114	
Indeno(1,2,3-cd)pyrene	ug/L	50	52.2	104	55-128	
Isophorone	ug/L	50	21.3	43	31-118	
N-Nitroso-di-n-propylamine	ug/L	50	24.0	48	32-119	
N-Nitrosodiphenylamine	ug/L	50	43.1	86	43-120	
Naphthalene	ug/L	50	21.0	42	32-120	
Nitrobenzene	ug/L	50	20.9	42	33-110	
Pentachlorophenol	ug/L	250	82.6	33	10-137	
Phenanthrene	ug/L	50	43.2	86	57-117	
Phenol	ug/L	50	11.7	23	10-120	
Pyrene	ug/L	50	43.3	87	55-122	
2,4,6-Tribromophenol (S)	%			99	27-110	
2-Fluorobiphenyl (S)	%			55	27-110	
2-Fluorophenol (S)	%			28	12-110	
Nitrobenzene-d5 (S)	%			40	21-110	
Phenol-d6 (S)	%			19	10-110	
Terphenyl-d14 (S)	%			87	31-107	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372242 1372243

Parameter	Units	92233653004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1,2,4,5-Tetrachlorobenzene	ug/L	ND	100	100	54.1	51.8	54	52	50-150	4	30
2,2'-Oxybis(1-chloropropane)	ug/L	ND	100	100	35.2	34.5	35	35	50-150	2	30 M0
2,3,4,6-Tetrachlorophenol	ug/L	ND	100	100	177	185	177	185	50-150	4	30 M0
2,4,5-Trichlorophenol	ug/L	ND	100	100	72.4	73.6	72	74	19-105	2	30
2,4,6-Trichlorophenol	ug/L	ND	100	100	60.9	60.5	61	60	13-108	1	30
2,4-Dichlorophenol	ug/L	ND	100	100	45.4	45.6	45	46	29-111	0	30
2,4-Dimethylphenol	ug/L	ND	100	100	43.5	45.7	44	46	21-103	5	30
2,4-Dinitrophenol	ug/L	ND	500	500	435	418	87	84	10-109	4	30
2,4-Dinitrotoluene	ug/L	ND	100	100	93.5	97.0	94	97	27-104	4	30
2,6-Dinitrotoluene	ug/L	ND	100	100	90.7	94.2	91	94	28-101	4	30
2-Chloronaphthalene	ug/L	ND	100	100	60.8	59.7	61	60	14-102	2	30
2-Chlorophenol	ug/L	ND	100	100	51.7	48.9	52	49	16-110	5	30
2-Methylnaphthalene	ug/L	ND	100	100	44.0	43.5	44	43	13-110	1	30
2-Methylphenol(o-Cresol)	ug/L	ND	100	100	45.1	43.1	45	43	19-110	4	30
2-Nitroaniline	ug/L	ND	200	200	133	141	66	70	26-103	6	30
2-Nitrophenol	ug/L	ND	100	100	48.7	48.4	49	48	20-110	1	30
3&4-Methylphenol(m&p Cresol)	ug/L	ND	100	100	41.4	39.9	41	40	20-110	4	30
3,3'-Dichlorobenzidine	ug/L	ND	500	500	174	187	35	37	25-112	7	30
3-Nitroaniline	ug/L	ND	200	200	169	177	85	88	29-110	4	30
4,6-Dinitro-2-methylphenol	ug/L	ND	200	200	187	196	94	98	10-117	5	30
4-Bromophenylphenyl ether	ug/L	ND	100	100	84.1	84.9	84	85	20-105	1	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372242 1372243											
Parameter	Units	92233653004		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Spike	Conc.	Result	% Rec	MSD	% Rec
									Limits	RPD	Max
4-Chloro-3-methylphenol	ug/L	ND	200	200	110	119	55	59	22-110	7	30
4-Chloroaniline	ug/L	ND	200	200	91.0	93.3	46	47	20-100	2	30
4-Chlorophenylphenyl ether	ug/L	ND	100	100	75.4	76.7	75	77	19-102	2	30
4-Nitroaniline	ug/L	ND	200	200	185	197	92	99	29-110	6	30
4-Nitrophenol	ug/L	ND	500	500	280	304	56	61	10-110	8	30
Acenaphthene	ug/L	ND	100	100	65.2	65.7	65	66	17-100	1	30
Acenaphthylene	ug/L	ND	100	100	65.8	65.9	66	66	21-100	0	30
Acetophenone	ug/L	ND	100	100	53.3	50.7	53	51	50-150	5	30
Anthracene	ug/L	ND	100	100	87.3	90.1	87	90	24-109	3	30
Atrazine	ug/L	ND	100	100	105	109	105	109	50-150	4	30
Benzaldehyde	ug/L	ND	100	100	ND	ND	0	0	50-150		30 MO
Benzo(a)anthracene	ug/L	ND	100	100	90.5	95.2	91	95	22-117	5	30
Benzo(a)pyrene	ug/L	ND	100	100	97.0	102	97	102	23-104	5	30
Benzo(b)fluoranthene	ug/L	ND	100	100	95.8	101	96	101	23-103	5	30
Benzo(g,h,i)perylene	ug/L	ND	100	100	93.2	97.9	93	98	18-111	5	30
Benzo(k)fluoranthene	ug/L	ND	100	100	83.9	88.5	84	88	22-113	5	30
Biphenyl (Diphenyl)	ug/L	ND	100	100	54.5	53.2	55	53	50-150	3	30
bis(2-Chloroethoxy)methane	ug/L	ND	100	100	52.6	52.3	53	52	22-110	1	30
bis(2-Chloroethyl) ether	ug/L	ND	100	100	50.0	46.6	50	47	16-110	7	30
bis(2-Ethylhexyl)phthalate	ug/L	ND	100	100	99.6	104	100	104	23-102	4	30 MO
Butylbenzylphthalate	ug/L	ND	100	100	100	105	100	105	25-110	4	30
Caprolactam	ug/L	ND	100	100	27.1	36.2	27	36	50-150	29	30 MO
Carbazole	ug/L	ND	100	100	86.9	90.3	87	90	50-150	4	30
Chrysene	ug/L	ND	100	100	91.7	96.4	92	96	23-115	5	30
Di-n-butylphthalate	ug/L	ND	100	100	97.2	101	97	101	26-110	4	30
Di-n-octylphthalate	ug/L	ND	100	100	96.3	102	96	102	22-110	5	30
Dibenz(a,h)anthracene	ug/L	ND	100	100	97.8	103	98	103	21-112	6	30
Dibenzofuran	ug/L	ND	100	100	70.0	70.9	70	71	19-102	1	30
Diethylphthalate	ug/L	ND	100	100	93.8	96.2	94	96	29-110	3	30
Dimethylphthalate	ug/L	ND	100	100	84.7	86.8	85	87	27-110	2	30
Fluoranthene	ug/L	ND	100	100	96.6	102	97	102	23-112	6	30
Fluorene	ug/L	ND	100	100	80.5	82.9	81	83	22-104	3	30
Hexachloro-1,3-butadiene	ug/L	ND	100	100	42.5	41.3	43	41	10-110	3	30
Hexachlorobenzene	ug/L	ND	100	100	87.1	88.0	87	88	21-116	1	30
Hexachlorocyclopentadiene	ug/L	ND	100	100	54.1	50.8	54	51	10-110	6	30
Hexachloroethane	ug/L	ND	100	100	50.6	49.5	51	49	10-110	2	30
Indeno(1,2,3-cd)pyrene	ug/L	ND	100	100	104	110	104	110	20-113	5	30
Isophorone	ug/L	ND	100	100	41.0	41.1	41	41	50-150	0	30 MO
N-Nitroso-di-n-propylamine	ug/L	ND	100	100	47.0	45.0	47	45	21-105	4	30
N-Nitrosodiphenylamine	ug/L	ND	100	100	83.1	85.4	83	85	23-107	3	30
Naphthalene	ug/L	ND	100	100	43.3	42.5	43	43	10-110	2	30
Nitrobenzene	ug/L	ND	100	100	40.2	41.5	40	41	20-110	3	30
Pentachlorophenol	ug/L	ND	500	500	174	179	35	36	10-118	3	30
Phenanthrene	ug/L	ND	100	100	83.2	86.1	83	86	24-106	4	30
Phenol	ug/L	ND	100	100	32.3	32.7	32	33	12-110	1	30
Pyrene	ug/L	ND	100	100	84.3	86.3	84	86	24-114	2	30

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QUALITY CONTROL DATA

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372242 1372243												
Parameter	Units	92233653004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
2,4,6-Tribromophenol (S)	%						97	100	27-110			
2-Fluorobiphenyl (S)	%						54	53	27-110			
2-Fluorophenol (S)	%						37	37	12-110			
Nitrobenzene-d5 (S)	%						40	41	21-110			
Phenol-d6 (S)	%						29	28	10-110			
Terphenyl-d14 (S)	%						85	87	31-107			

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QUALIFIERS

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CTS OF ASHEVILLE 6252120006

Pace Project No.: 92233653

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92233653002	MW-10	EPA 3510	OEXT/32353	EPA 8270	MSSV/10208
92233653003	MW-10A	EPA 3510	OEXT/32353	EPA 8270	MSSV/10208
92233653004	MW-11	EPA 3510	OEXT/32353	EPA 8270	MSSV/10208
92233653005	MW-11A	EPA 3510	OEXT/32353	EPA 8270	MSSV/10208
92233653001	TB-03	EPA 8260	MSV/30047		
92233653002	MW-10	EPA 8260	MSV/30047		
92233653003	MW-10A	EPA 8260	MSV/30047		
92233653004	MW-11	EPA 8260	MSV/30047		
92233653005	MW-11A	EPA 8260	MSV/30047		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: June 10, 2014
	Document No.: F-ASV-CS-003-rev.14	Page 1 of 2
		Issuing Authorities: Pace Asheville Quality Office

Client Name: AMEC

Courier (Circle): Fed Ex UPS USPS Client Commercial Pace Other _____
 Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no
 Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____
 Thermometer Used: IR Gun#3 -130265963 Type of Ice: Ice Blue None ☒ Samples on ice, cooling process has begun
 IR Gun#4 SN:140290365 Other: _____
 Temp Correction Factor: Add / Subtract 0 C
 Corrected Cooler Temp.: 4.1 C Biological Tissue is Frozen: Yes No N/A
 Temp should be above freezing to 6°C

Date and Initials of person examining contents: 1/15/15 J.S.

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☒ Yes ☐ No ☐ N/A	7. <u>STD</u>
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>Water</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	
Samples checked for dechlorination:	☒ Yes ☐ No ☐ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15. <u>NO</u>
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: [Signature] Date: 1/15/15
 SRF Review: [Signature] Date: 1/16/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92233653



92233653

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company: Amec	Report To: Susan Kelly
Address: 1508 Patton Ave	Copy To:
Asheville NC 28806	
Phone: 828-252-8130	Purchase Order No.: 012504403
Project Name: US of Asheville	Reference: Susan Kelly@amec.fw.com
Requested Dup./Ref.: ST	Project Number: 025212000
	Address: Susan Kelly
	Company: Amec
	Reference: Susan Kelly@amec.fw.com
	Project Manager: Kevin Gordin
	Site Location: NC
	State: NC

Section B Required Project Information:

Section C Invoice Information:

Page: 1 of 1
1818122
REGULATORY AGENCY
NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐
UST ☐ RCRA ☐ OTHER ☐

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
					DATE	TIME						
1	TB-03	DW	WTG					2				
2	MW-10	WT						2				
3	MW-10A	WT						2				
4	MW-11	WT						2				
5	MW-11A	WT						2				
6												
7												
8												
9												
10												
11												
12												

ADDITIONAL COMMENTS

Level IV data package for 11/15/15 4:35 PM at NC

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

11/15/15

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

APPENDIX C

JANUARY 2015 GROUNDWATER SAMPLING DATA VALIDATION REPORT

DATA VALIDATION REPORT
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina

1.0 INTRODUCTION

Groundwater samples were collected at the CTS of Asheville, Inc., Superfund Site (Site) in Asheville, North Carolina, in January 2015 and submitted for off-site laboratory analysis. Samples were analyzed by Pace Analytical Services, Inc., (Pace) located in Huntersville, North Carolina. Results were reported in the following Sample Delivery Groups (SDGs): 92232495, 92232749, and 92233653.

A listing of samples included in this Data Validation Report is presented in Table C.1. Data were evaluated using project quality control limits summarized in Table C.2. A summary of qualified analytical results is presented in Table C.3 and a summary of final results is summarized in Table C.4. Samples were analyzed by the following methods:

- Volatile organic compounds (VOCs) by USEPA Method 8260
- Semivolatile organic compounds (SVOCs) by USEPA Method 8270

Data validation was completed based on procedures in the USEPA Region 4 Data Validation Standard Operating Procedures (SOP) for Organic Analysis (USEPA, 2008), Method 8260, Method 8270, and the Quality Assurance Project Plan (QAPP; Amec, 2012). Data validation included the following evaluations:

- Lab report narrative
- Sample collection and chain of custody
- Data package completeness
- Holding times
- Instrument tuning
- initial and continuing calibrations
- QC blanks
- System monitoring compound recovery
- Laboratory control samples (LCS)
- Matrix spike/matrix spike duplicates (MS/MSD)
- Field duplicates
- Internal standard response and retention time
- Data transcription
- Raw data and calculation checks
- Electronic data reporting
- Data qualification

The following laboratory or data validation qualifiers are used in the final data presentation:

U = target analyte is not detected at the reported detection limit

J = estimated value

R = result is rejected

Results are interpreted to be usable as reported by the laboratory unless discussed in the following sections.

2.0 VOCs

2.1 Instrument Tuning

The tuning criteria provided by Pace do not match the tuning criteria listed in Method 8260 or the Region 4 validation guidelines. The laboratory criteria reported are based on the USEPA Contract Laboratory Program Method OLM03. Method 8260 allows for the use of alternative tuning criteria, and instrument tuning was reviewed based on criteria provided in the lab report.

Tuning results were also compared to USEPA Region 4 control limits during data validation. Instrument tune results for all mass/charge (m/z) ratios were within control limits for percent relative abundance as stated in the USEPA Region 4 SOP for all instrument tunes, and sample results were accepted as reported without qualification.

2.2 Initial Calibration

The initial calibration average relative response factors (RRFs) were less than the validation guideline limit of 0.05 for 1,4-dioxane in the initial calibration curves associated with the samples. 1,4-dioxane was not detected in any of the samples, and the results were qualified as rejected (R) in all samples. Qualified results are summarized in Table C.3 and were assigned validation reason code ICVRRF.

2.3 Continuing Calibration

A subset of results for compounds listed below are qualified estimated (J/UJ) based on continuing calibration percent differences (%Ds) greater than 20.

- 1,2-dichloroethane
- 2-butanone
- acetone
- bromomethane
- chloroethane
- chloromethane
- dichlorodifluoromethane
- methyl acetate

The relative response factors for 1,4-dioxane are less than the validation guideline limit of 0.05, and results are qualified as rejected (R). Qualified results are discussed below and summarized in Table C.3 and were assigned validation reason code CCV%D and/or CCVRRF.

SDG 92232495

In the continuing calibration standard analyzed on 1/10/2015 (02:48), %Ds were greater than 20 for chloromethane (-28), 2-butanone (-21), and 1,4-dioxane (-51). Results for 1,4-dioxane were previously qualified as rejected based on low RRF. Chloromethane and 2-butanone were not detected in the associated samples and reporting limits were qualified estimated (UJ).

In the continuing calibration standard analyzed on 1/12/2015 (17:15), %Ds were greater than 20 for dichlorodifluoromethane (-28), chloromethane (-26), 1,2-dichloroethane (-88), and 1,4-dioxane (-54). Results for 1,4-dioxane were previously qualified as rejected based on low RRF. Dichlorodifluoromethane, chloromethane, and 1,2-dichloroethane were not detected in the associated samples and reporting limits were qualified estimated (UJ).

SDG 92232749

In the continuing calibration standard analyzed on 1/14/2015 (17:44), %Ds were greater than 20 for chloromethane (-24), bromomethane (-28), acetone (22), methyl acetate (26), and 1,4-dioxane (-46). Results for 1,4-dioxane were previously qualified as rejected based on low RRF. Chloromethane, bromomethane, acetone and methyl acetate were not detected in the associated samples and reporting limits were qualified estimated (UJ).

SDG 92233653

In the continuing calibration standard analyzed on 1/21/2015 (09:47), %Ds were greater than 20 for chloromethane (-21), bromomethane (-40), chloroethane (-22), methyl acetate (27), and 1,4-dioxane (-33). Results for 1,4-dioxane were previously qualified as rejected based on low RRF. Chloromethane, bromomethane, chloroethane and methyl acetate were not detected in the associated samples and reporting limits were qualified estimated (UJ).

In the closing continuing calibration analyzed on 1/21/2015 (22:04), the %D for bromomethane (-60) was greater than the control limit of 35. Bromomethane was not detected in associated samples and reporting limits were qualified estimated (UJ).

2.4 Laboratory Control Samples

A subset of results for compounds listed below was qualified estimated (J/UJ) based on LCS percent recoveries that were outside the control limits. Qualified results are discussed below and summarized in Table C.3 and were assigned reason code LCS-L or LCS-H.

- 1,1,2-trichloro-1,2,2-trifluoroethane
- 1,4-dioxane
- bromomethane
- chloroethane

SDG 92232495

The percent recoveries of 1,4-dioxane (55, 37) in both LCSs associated with samples of SDG 92232495 were below the 70-130 control limits, indicating potential low biases. Results for 1,4-dioxane in all samples were previously qualified as rejected due to low RRF.

SDG 92232479

The percent recovery of 1,1,2-trichlorotrifluoroethane (137) was above the 70-130 control limits in the LCS associated with all samples except FD-02. The positive detection of 1,1,2-trichlorotrifluoroethane in sample MW-5A was qualified estimated (J).

Percent recovery of 1,4-dioxane (45) was below the 70-130 control limits; results for 1,4-dioxane were previously qualified as rejected due to low RRF.

SDG 92233653

Percent recoveries of bromomethane (61) and chloroethane (61) were below the 70-130 control limits in the LCS associated with all samples. Bromomethane and chloroethane were not detected in the samples and reporting limits were qualified estimated (UJ).

2.5 Matrix Spikes/Matrix Spike Duplicates

MS/MSD analyses were completed using samples MW-3A. Recoveries within project limits and duplicate precision goals were observed for most compounds. The result for 1,1,1-trichloroethane in MW-3A was qualified estimated (J/UJ) based on percent recoveries that were outside the control limits. Qualified results are summarized in Table C.3 and were assigned reason code MS-L or MS-H.

SDG 92232479

Percent recovery of 1,1,1-trichloroethane (132) was above the 70-130 control limits in the MS associated with sample MW-3A. The positive detection of 1,1,1-trichloroethane in sample MW-3A was qualified estimated (J). Percent recovery of 1,4-dioxane (62) was below the 70-130 control limits in the MSD associated with sample MW-3A; results for 1,4-dioxane were previously qualified as rejected.

2.6 Field Duplicates

SDG 92232495

Field duplicates were collected from locations MW-6 and MW-2. Good agreement of results was observed for most compounds. Inconsistent results for benzene were observed for sample MW-6 and associated field duplicate FD-01. Benzene was not detected in sample MW-6 but was reported at 13 micrograms per liter (µg/L) in FD-01. The positive and non-detected results for benzene in MW-6 and FD-01 were qualified estimated (J/UJ). Qualified results are summarized in Table C.3 and were assigned reason code FD.

2.7 Reporting Limits

A subset of VOC samples were analyzed at dilutions due to concentrations of target compounds. Reporting limits for compounds that were not detected in the diluted samples are elevated. Actual sample detection limits for all samples are presented in Table C.4.

3.0 SVOCs

3.1 Instrument Tuning

The tuning criteria provided by Pace do not match the tuning criteria listed in Method 8270 or the Region 4 validation guidelines. The laboratory criteria reported are based on the USEPA Contract Laboratory Program Method OLM03. Method 8270 allows for the use of alternative tuning criteria, and instrument tuning was reviewed based on criteria provided in the lab report.

Tuning results were also compared to USEPA Region 4 control limits during data validation. Instrument tune results for all mass/charge (m/z) ratios were within control limits for percent relative abundance as stated in the USEPA Region 4 SOP for all instrument tunes, and sample results were accepted as reported without qualification.

3.2 Continuing Calibration

A subset of results was qualified estimated (J/UJ) based on continuing calibration percent differences (%Ds) below 20. Qualified results are discussed below and summarized in Table C.3 and were assigned validation reason code CCV%D. Compounds include:

- 2,2'-oxybis(1-chloropropane)
- benzaldehyde

SDG 92232495

For both continuing calibration standards associated with samples of SDG 92232495, the %Ds for benzaldehyde (-25, -28) were outside the control limit of 20. Benzaldehyde was not detected in any of the samples and results were qualified as rejected (R) based on low (<10) percent recoveries for laboratory control samples. No further action was required for the continuing calibration %Ds.

SDG 92232749

For both continuing calibration standards associated with samples of SDG 92232749, the %Ds for benzaldehyde (-25, -23) were outside the control limit of 20. Benzaldehyde was not detected in any of the samples and results were qualified as rejected (R) based on low (<10) percent recoveries for laboratory control samples. No further action was required for the continuing calibration %Ds.

SDG 92233653

For the continuing calibration standard associated with all samples of SDG 92233653, the %D for 2,2'-oxybis(1-chloropropane) (-29) was outside the control limit of 20. 2,2'-oxybis(1-chloropropane) was not detected in any of the samples and reporting limits were qualified as estimated (UJ).

3.3 Surrogates

Percent recoveries for two or more acid fraction surrogates and two or more base/neutral fraction surrogates were below the control limits of 40-160 (acid) and 70-130 (base/neutral), indicating possible low biases for the samples.

With the exception of naphthalene and 2-methylnaphthalene in samples MW-3A and MW-7A, and traces of biphenyl, fluorene, and phenanthrene in MW-3A, target analytes were not reported in these samples and reporting limits for all analytes were qualified as estimated (UJ). Detected compound results were qualified as estimated (J) and are potentially biased low. Results for benzaldehyde were qualified as rejected (R) based on low (<10) percent recoveries for LCSs. Qualified results are summarized in Table C.3 and were assigned reason code SS-L.

3.4 Laboratory Control Samples and Matrix Spike/Matrix Spike Duplicates

Many target compound results were qualified as estimated (J/UJ) based on LCS and MS/MSD percent recoveries that were outside the project control limits of 70-130 percent for base-neutral compounds and 40-160 percent for acid fraction compounds. The majority of these results were for compounds that were not detected in samples and reporting limits are qualified as estimated (UJ) with potential low bias. Qualified results are summarized in Table C.3 and were assigned reason code LCS-L and MS-L.

Percent recoveries of zero were reported in both LCS and MS/MSDs for benzaldehyde indicating no recovery for benzaldehyde. Non-detected results in all samples for benzaldehyde were qualified as rejected (R).

For the MS/MSD performed using sample MW-3A, RPDs were greater than the control limit of 30 for 4-nitroaniline (33), 4-nitrophenol (36), atrazine (33), benzo(g,h,i)perylene (31), and carbazole (33). These compounds were not detected in samples and reporting limits were qualified as estimated (UJ). Qualified results are summarized in Table C.3 with reason code MS-RPD.

4.0 References

Amec, 2012. "NAPL Investigation Work Plan: Quality Assurance Project Plan (Revision 2)," December 21, 2012.

USEPA Region 4, 2008. "Data Validation Standard Operating Procedures for Organic Analysis" Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Revision 3.1, August 2008.

Data Validator: Julie Ricardi



Date: 4/6/2015

Reviewed by Chris Ricardi, NRCC-EAC



Date: 4/9/2015

TABLE C.1
Data Validation Report: Summary of Samples and Analytical Methods
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

Sample Delivery Group	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	SVOCs EPA 8270D	VOCs EPA 8260B
92232495	MW-1	MW-1	01/07/15	92232495003	FS	67	52
92232495	MW-4	MW-4	01/07/15	92232495004	FS	67	52
92232495	MW-4A	MW-4A	01/07/15	92232495005	FS	67	52
92232495	MW-6	FD-01	01/07/15	92232495002	FD	67	52
92232495	MW-6	MW-6	01/07/15	92232495006	FS	67	52
92232495	QC	TB-01	01/07/15	92232495001	TB	--	52
92232495	QC	EB-01	01/08/15	92232495007	EB	67	52
92232749	MW-2	FD-02	01/08/15	92232749002	FD	67	52
92232749	MW-2	MW-2	01/08/15	92232749004	FS	67	52
92232749	MW-3A	MW-3A	01/08/15	92232749005	FS	67	52
92232749	MW-5	MW-5	01/09/15	92232749006	FS	67	52
92232749	MW-5A	MW-5A	01/09/15	92232749007	FS	67	52
92232749	MW-6A	MW-6A	01/08/15	92232749003	FS	67	52
92232749	MW-7	MW-7	01/09/15	92232749008	FS	67	52
92232749	MW-7A	MW-7A	01/09/15	92232749009	FS	67	52
92232749	QC	TB-02	01/08/15	92232749001	TB	--	52
92233653	MW-10	MW-10	01/15/15	92233653002	FS	67	52
92233653	MW-10A	MW-10A	01/15/15	92233653003	FS	67	52
92233653	MW-11	MW-11	01/15/15	92233653004	FS	67	52
92233653	MW-11A	MW-11A	01/15/15	92233653005	FS	67	52
92233653	QC	TB-03	01/15/15	92233653001	TB	--	52

Notes:

VOCs = volatile organic compounds

SVOCs = semivolatile organic compounds

QC Codes: FS = field sample, FD = field duplicate, TB = trip blank, EB = equipment blank

Number refers to number of target analytes reported.

Prepared By: WCG 4/2/15

Checked By: JAR 4/6/15

TABLE C.2
Data Validation Report: Quality Control Limits
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

Parameter	QC Test	Water %R	Water RPD
VOC	Surrogate	70-130	--
	LCS/LCSD	70-130	30
	MS/MSD	70-130	30
	Field Duplicate		30
SVOC	Surrogate b/n fraction	70-130	--
	Surrogate acid fraction	40-160	--
	LCS/LCSD b/n fraction	70-130	30
	LCS/LCSD acid fraction	40-160	30
	MS/MSD b/n fraction	70-130	30
	MS/MSD acid fraction	40-160	30
	Field Duplicate	--	30

Notes:

LCS = laboratory control sample

LCSD = laboratory control sample duplicate

MS = matrix spike

MSD = matrix spike duplicate

%R = percent recovery

RPD = relative percent difference

b/n = base/neutral

Prepared By: JAR 4/6/15

Checked By: CSR 4/9/15

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8260	92232749005	MW-3A	1,1,1-Trichloroethane	277		277	J	MS-H
92232749	SW8260	92232749007	MW-5A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.21	J	0.21	J	LCS-H
92232495	SW8270	92232495003	MW-1	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	1,2,4,5-Tetrachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8260	92232495003	MW-1	1,2-Dichloroethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495004	MW-4	1,2-Dichloroethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495005	MW-4A	1,2-Dichloroethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495003	MW-1	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749002	FD-02	1,4-Dioxane	1880	U		R	ICVRRF
92232749	SW8260	92232749004	MW-2	1,4-Dioxane	750	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749005	MW-3A	1,4-Dioxane	3750	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L, MS-L
92232495	SW8260	92232495004	MW-4	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232495	SW8260	92232495005	MW-4A	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749006	MW-5	1,4-Dioxane	3750	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749007	MW-5A	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232495	SW8260	92232495002	FD-01	1,4-Dioxane	1500	U		R	ICVRRF, CCVRRF, CCV%D
92232495	SW8260	92232495006	MW-6	1,4-Dioxane	1500	U		R	ICVRRF, CCVRRF, CCV%D
92232749	SW8260	92232749003	MW-6A	1,4-Dioxane	75000	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749008	MW-7	1,4-Dioxane	300	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92232749	SW8260	92232749009	MW-7A	1,4-Dioxane	75000	U		R	ICVRRF, CCVRRF, CCV%D, LCS-L
92233653	SW8260	92233653002	MW-10	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D
92233653	SW8260	92233653003	MW-10A	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D
92233653	SW8260	92233653004	MW-11	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D
92233653	SW8260	92233653005	MW-11A	1,4-Dioxane	150	U		R	ICVRRF, CCVRRF, CCV%D

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495003	MW-1	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2,2'-Dichlorodiisopropylether	10	U	10	UJ	CCV%D, SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	CCV%D, SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	2,2'-Dichlorodiisopropylether	10	U	10	UJ	CCV%D, SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	2,2'-Dichlorodiisopropylether	10	U	10	UJ	CCV%D, SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495004	MW-4	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,3,4,6-Tetrachlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495004	MW-4	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495005	MW-4A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4,5-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495004	MW-4	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4,6-Trichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4-Dichlorophenol	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749003	MW-6A	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2,4-Dichlorophenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4-Dichlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2,4-Dimethylphenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4-Dimethylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,4-Dinitrophenol	50	U	50	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4-Dinitrophenol	50	U	50	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653004	MW-11	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4-Dinitrophenol	50	U	50	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,4-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2,6-Dinitrotoluene	10	U	10	UJ	SS-L
92232495	SW8260	92232495002	FD-01	2-Butanone	50	U	50	UJ	CCV%D
92232495	SW8260	92232495006	MW-6	2-Butanone	50	U	50	UJ	CCV%D
92232495	SW8270	92232495003	MW-1	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749002	FD-02	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	2-Chloronaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Chlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2-Chlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Chlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2-Chlorophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Chlorophenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Chlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2-Chlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2-Chlorophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2-Chlorophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Methylnaphthalene	42.9		42.9	J	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749006	MW-5	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Methylnaphthalene	1.2	J	1.2	J	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	2-Methylnaphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Methylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2-Methylphenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Methylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2-Methylphenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Methylphenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Methylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2-Methylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2-Methylphenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2-Methylphenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2-Nitroaniline	50	U	50	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2-Nitroaniline	50	U	50	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749008	MW-7	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Nitroaniline	50	U	50	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2-Nitroaniline	50	U	50	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2-Nitroaniline	50	U	50	UJ	SS-L, MS-L
92233653	SW8270	92233653005	MW-11A	2-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495003	MW-1	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	2-Nitrophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	2-Nitrophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	2-Nitrophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	2-Nitrophenol	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	2-Nitrophenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	2-Nitrophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	2-Nitrophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	2-Nitrophenol	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	2-Nitrophenol	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
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Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653005	MW-11A	3 & 4 Methylphenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	3,3'-Dichlorobenzidine	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	3-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	3-Nitroaniline	50	U	50	UJ	SS-L
92232749	SW8270	92232749006	MW-5	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	3-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495006	MW-6	3-Nitroaniline	50	U	50	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	3-Nitroaniline	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	3-Nitroaniline	50	U	50	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	3-Nitroaniline	50	U	50	UJ	SS-L
92233653	SW8270	92233653004	MW-11	3-Nitroaniline	50	U	50	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	3-Nitroaniline	50	U	50	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749004	MW-2	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L

TABLE C.3
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495004	MW-4	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749006	MW-5	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495002	FD-01	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495006	MW-6	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749008	MW-7	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653002	MW-10	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653004	MW-11	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	4,6-Dinitro-2-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	4-Bromophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749002	FD-02	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749004	MW-2	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749006	MW-5	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495002	FD-01	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495006	MW-6	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749008	MW-7	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653002	MW-10	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653004	MW-11	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	4-Chloro-3-methylphenol	20	U	20	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	4-Chloroaniline	20	U	20	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653003	MW-10A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	4-Chlorophenyl phenyl ether	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749002	FD-02	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749004	MW-2	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	4-Nitroaniline	20	U	20	UJ	SS-L, MS-L, MS-RPD
92232495	SW8270	92232495004	MW-4	4-Nitroaniline	20	U	20	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749006	MW-5	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	4-Nitroaniline	20	U	20	UJ	SS-L
92232495	SW8270	92232495002	FD-01	4-Nitroaniline	20	U	20	UJ	SS-L
92232495	SW8270	92232495006	MW-6	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749008	MW-7	4-Nitroaniline	20	U	20	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	4-Nitroaniline	20	U	20	UJ	SS-L
92233653	SW8270	92233653002	MW-10	4-Nitroaniline	20	U	20	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	4-Nitroaniline	20	U	20	UJ	SS-L
92233653	SW8270	92233653004	MW-11	4-Nitroaniline	20	U	20	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	4-Nitroaniline	20	U	20	UJ	SS-L
92232495	SW8270	92232495003	MW-1	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L, MS-L, MS-RPD
92232495	SW8270	92232495004	MW-4	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92233653	SW8270	92233653005	MW-11A	4-Nitrophenol	50	U	50	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Acenaphthene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749004	MW-2	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Acenaphthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Acenaphthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Acenaphthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Acenaphthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Acenaphthene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Acenaphthene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Acenaphthylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Acenaphthylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Acenaphthylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Acenaphthylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Acenaphthylene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8260	92232749002	FD-02	Acetic acid, methyl ester	125	U	125	UJ	CCV%D
92232749	SW8260	92232749004	MW-2	Acetic acid, methyl ester	50	U	50	UJ	CCV%D
92232749	SW8260	92232749005	MW-3A	Acetic acid, methyl ester	250	U	250	UJ	CCV%D
92232749	SW8260	92232749006	MW-5	Acetic acid, methyl ester	250	U	250	UJ	CCV%D
92232749	SW8260	92232749007	MW-5A	Acetic acid, methyl ester	10	U	10	UJ	CCV%D
92232749	SW8260	92232749003	MW-6A	Acetic acid, methyl ester	5000	U	5,000	UJ	CCV%D
92232749	SW8260	92232749008	MW-7	Acetic acid, methyl ester	20	U	20	UJ	CCV%D

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8260	92232749009	MW-7A	Acetic acid, methyl ester	5000	U	5,000	UJ	CCV%D
92232749	SW8260	92232749002	FD-02	Acetone	312	U	312	UJ	CCV%D
92232749	SW8260	92232749004	MW-2	Acetone	125	U	125	UJ	CCV%D
92232749	SW8260	92232749005	MW-3A	Acetone	625	U	625	UJ	CCV%D
92232749	SW8260	92232749006	MW-5	Acetone	625	U	625	UJ	CCV%D
92232749	SW8260	92232749007	MW-5A	Acetone	25	U	25	UJ	CCV%D
92232749	SW8260	92232749003	MW-6A	Acetone	12500	U	12,500	UJ	CCV%D
92232749	SW8260	92232749008	MW-7	Acetone	50	U	50	UJ	CCV%D
92232749	SW8260	92232749009	MW-7A	Acetone	12500	U	12,500	UJ	CCV%D
92232495	SW8270	92232495003	MW-1	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Acetophenone	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Acetophenone	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Acetophenone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Anthracene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Anthracene	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653002	MW-10	Anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Atrazine	20	U	20	UJ	SS-L, MS-L, MS-RPD
92232495	SW8270	92232495004	MW-4	Atrazine	20	U	20	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Atrazine	20	U	20	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Atrazine	20	U	20	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Atrazine	20	U	20	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Atrazine	20	U	20	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Atrazine	20	U	20	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Atrazine	20	U	20	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Atrazine	20	U	20	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Atrazine	20	U	20	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Benzaldehyde	20	U		R	CCV%D, SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Benzaldehyde	20	U		R	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Benzaldehyde	20	U		R	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Benzaldehyde	20	U		R	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Benzaldehyde	20	U		R	SS-L, LCS-L
92232495	SW8260	92232495002	FD-01	Benzene	13.2		13.2	J	FD

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8260	92232495006	MW-6	Benzene	10	U	10	UJ	FD
92232495	SW8270	92232495003	MW-1	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Benzo(a)anthracene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Benzo(a)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Benzo(a)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Benzo(a)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Benzo(a)pyrene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Benzo(a)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Benzo(a)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Benzo(a)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L, MS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495004	MW-4	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Benzo(b)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Benzo(ghi)perylene	10	U	10	UJ	SS-L, MS-L, MS-RPD
92232495	SW8270	92232495004	MW-4	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Benzo(ghi)perylene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Benzo(k)fluoranthene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Benzo(k)fluoranthene	10	U	10	UJ	SS-L

TABLE C.3
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CTS of Asheville, Inc. Superfund Site
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495006	MW-6	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Benzo(k)fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Biphenyl	3.9	J	3.9	J	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Biphenyl	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Biphenyl	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
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CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653003	MW-10A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Bis(2-Chloroethoxy)methane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Bis(2-Chloroethyl)ether	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Bis(2-Ethylhexyl)phthalate	6	U	6	UJ	SS-L
92232749	SW8260	92232749002	FD-02	Bromomethane	25	U	25	UJ	CCV%D
92232749	SW8260	92232749004	MW-2	Bromomethane	10	U	10	UJ	CCV%D

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8260	92232749005	MW-3A	Bromomethane	50	U	50	UJ	CCV%D
92232749	SW8260	92232749006	MW-5	Bromomethane	50	U	50	UJ	CCV%D
92232749	SW8260	92232749007	MW-5A	Bromomethane	2	U	2	UJ	CCV%D
92232749	SW8260	92232749003	MW-6A	Bromomethane	1000	U	1,000	UJ	CCV%D
92232749	SW8260	92232749008	MW-7	Bromomethane	4	U	4	UJ	CCV%D
92232749	SW8260	92232749009	MW-7A	Bromomethane	1000	U	1,000	UJ	CCV%D
92233653	SW8260	92233653002	MW-10	Bromomethane	2	U	2	UJ	CCV%D, LCS-L
92233653	SW8260	92233653003	MW-10A	Bromomethane	2	U	2	UJ	CCV%D, LCS-L
92233653	SW8260	92233653004	MW-11	Bromomethane	2	U	2	UJ	CCV%D, LCS-L
92233653	SW8260	92233653005	MW-11A	Bromomethane	2	U	2	UJ	CCV%D, LCS-L
92232495	SW8270	92232495003	MW-1	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Butylbenzylphthalate	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Butylbenzylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Butylbenzylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Butylbenzylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Caprolactam	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Caprolactam	10	U,IO	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Caprolactam	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
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CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749009	MW-7A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Caprolactam	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Caprolactam	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Carbazole	10	U	10	UJ	SS-L, LCS-L, MS-L, MS-RPD
92232495	SW8270	92232495004	MW-4	Carbazole	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Carbazole	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Carbazole	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Carbazole	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Carbazole	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Carbazole	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Carbazole	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Carbazole	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Carbazole	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Carbazole	10	U	10	UJ	SS-L
92233653	SW8260	92233653002	MW-10	Chloroethane	1	U,L0	1	UJ	CCV%D, LCS-L
92233653	SW8260	92233653003	MW-10A	Chloroethane	1	U,L0	1	UJ	CCV%D, LCS-L
92233653	SW8260	92233653004	MW-11	Chloroethane	1	U,L0	1	UJ	CCV%D, LCS-L
92233653	SW8260	92233653005	MW-11A	Chloroethane	1	U,L0	1	UJ	CCV%D, LCS-L
92232495	SW8260	92232495003	MW-1	Chloromethane	1	U	1	UJ	CCV%D
92232749	SW8260	92232749002	FD-02	Chloromethane	12.5	U	12.5	UJ	CCV%D
92232749	SW8260	92232749004	MW-2	Chloromethane	5	U	5	UJ	CCV%D
92232749	SW8260	92232749005	MW-3A	Chloromethane	25	U	25	UJ	CCV%D
92232495	SW8260	92232495004	MW-4	Chloromethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495005	MW-4A	Chloromethane	1	U	1	UJ	CCV%D
92232749	SW8260	92232749006	MW-5	Chloromethane	25	U	25	UJ	CCV%D
92232749	SW8260	92232749007	MW-5A	Chloromethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495002	FD-01	Chloromethane	10	U	10	UJ	CCV%D
92232495	SW8260	92232495006	MW-6	Chloromethane	10	U	10	UJ	CCV%D
92232749	SW8260	92232749003	MW-6A	Chloromethane	500	U	500	UJ	CCV%D
92232749	SW8260	92232749008	MW-7	Chloromethane	2	U	2	UJ	CCV%D
92232749	SW8260	92232749009	MW-7A	Chloromethane	500	U	500	UJ	CCV%D

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8260	92233653002	MW-10	Chloromethane	1	U	1	UJ	CCV%D
92233653	SW8260	92233653003	MW-10A	Chloromethane	1	U	1	UJ	CCV%D
92233653	SW8260	92233653004	MW-11	Chloromethane	1	U	1	UJ	CCV%D
92233653	SW8260	92233653005	MW-11A	Chloromethane	1	U	1	UJ	CCV%D
92232495	SW8270	92232495003	MW-1	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Chrysene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Chrysene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Chrysene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Chrysene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Chrysene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Chrysene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Chrysene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Chrysene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Chrysene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Chrysene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Dibenz(a,h)anthracene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
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CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749002	FD-02	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Dibenzofuran	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Dibenzofuran	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Dibenzofuran	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Dibenzofuran	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Dibenzofuran	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Dibenzofuran	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Dibenzofuran	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Dibenzofuran	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Dibenzofuran	10	U	10	UJ	SS-L
92232495	SW8260	92232495003	MW-1	Dichlorodifluoromethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495004	MW-4	Dichlorodifluoromethane	1	U	1	UJ	CCV%D
92232495	SW8260	92232495005	MW-4A	Dichlorodifluoromethane	1	U	1	UJ	CCV%D
92232495	SW8270	92232495003	MW-1	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Diethylphthalate	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Diethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Diethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Diethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Diethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Diethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Diethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Diethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Diethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Diethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749005	MW-3A	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Dimethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Dimethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Dimethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Dimethylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Dimethylphthalate	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Dimethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Dimethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Dimethylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Dimethylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Di-n-butylphthalate	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Di-n-butylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Di-n-butylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Di-n-butylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Di-n-octylphthalate	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Di-n-octylphthalate	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495002	FD-01	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Di-n-octylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Di-n-octylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Di-n-octylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Di-n-octylphthalate	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Di-n-octylphthalate	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Fluoranthene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Fluoranthene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Fluoranthene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Fluoranthene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Fluorene	2	J	2	J	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Fluorene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Fluorene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Fluorene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Fluorene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Fluorene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Fluorene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653002	MW-10	Fluorene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Fluorene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Fluorene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Fluorene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Hexachlorobenzene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Hexachlorobenzene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Hexachlorobenzene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Hexachlorobenzene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Hexachlorobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Hexachlorobenzene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Hexachlorobenzene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Hexachlorobenzene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Hexachlorobenzene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Hexachlorobutadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749002	FD-02	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Hexachlorocyclopentadiene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Hexachloroethane	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749006	MW-5	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Indeno(1,2,3-cd)pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Isophorone	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Isophorone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Isophorone	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Isophorone	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Naphthalene	14.1		14.1	J	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Naphthalene	10	U	10	UJ	SS-L, LCS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232749	SW8270	92232749008	MW-7	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Naphthalene	1	J	1	J	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Naphthalene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Naphthalene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Nitrobenzene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L, MS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92233653	SW8270	92233653005	MW-11A	N-Nitrosodi-n-propylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	N-Nitrosodiphenylamine	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Pentachlorophenol	25	U	25	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Phenanthrene	3.2	J	3.2	J	SS-L, LCS-L, MS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495004	MW-4	Phenanthrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Phenanthrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Phenanthrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495006	MW-6	Phenanthrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Phenanthrene	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Phenanthrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Phenanthrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Phenanthrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Phenanthrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495003	MW-1	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749002	FD-02	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749004	MW-2	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749005	MW-3A	Phenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92232495	SW8270	92232495004	MW-4	Phenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495005	MW-4A	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749006	MW-5	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749007	MW-5A	Phenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495002	FD-01	Phenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495006	MW-6	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749003	MW-6A	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749008	MW-7	Phenol	10	U	10	UJ	SS-L, LCS-L
92232749	SW8270	92232749009	MW-7A	Phenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653002	MW-10	Phenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653003	MW-10A	Phenol	10	U	10	UJ	SS-L, LCS-L
92233653	SW8270	92233653004	MW-11	Phenol	10	U	10	UJ	SS-L, LCS-L, MS-L
92233653	SW8270	92233653005	MW-11A	Phenol	10	U	10	UJ	SS-L, LCS-L
92232495	SW8270	92232495003	MW-1	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749002	FD-02	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749004	MW-2	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749005	MW-3A	Pyrene	10	U	10	UJ	SS-L, MS-L
92232495	SW8270	92232495004	MW-4	Pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495005	MW-4A	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749006	MW-5	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749007	MW-5A	Pyrene	10	U	10	UJ	SS-L
92232495	SW8270	92232495002	FD-01	Pyrene	10	U	10	UJ	SS-L

TABLE C.3
Data Validation Report: Summary of Data Qualification Actions
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006

SDG	Method	Lab Sample ID	Field Sample ID	Parameter	Lab Result	Lab Qualifier*	Final Result	Final Qualifier	Validation Reason Code
92232495	SW8270	92232495006	MW-6	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749003	MW-6A	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749008	MW-7	Pyrene	10	U	10	UJ	SS-L
92232749	SW8270	92232749009	MW-7A	Pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653002	MW-10	Pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653003	MW-10A	Pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653004	MW-11	Pyrene	10	U	10	UJ	SS-L
92233653	SW8270	92233653005	MW-11A	Pyrene	10	U	10	UJ	SS-L

Validation Reason Codes --

ICVRRF = initial calibration average relative response factor below control limit

CCVRRF = continuing calibration relative response factor below control limit

CCV%D = continuing calibration percent difference above control limit

SS-L = surrogate percent recovery below control limit

LCS-L = laboratory control sample percent recovery below control limit

LCS-H = laboratory control sample percent recovery above control limit

MS-L = matrix spike percent recovery below control limit

MS-H = matrix spike percent recovery above control limit

MS-RPD = MS/MSD relative percent difference above control limit

FD = field duplicate results exceed criteria

Final Qualifiers:

J = estimated concentration

UJ = estimated reporting limit

UR = rejected reporting limit

R = rejected

*Refer to laboratory analytical reports for laboratory qualifiers.

Prepared By: WCG 4/2/15

Checked By: JAR 4/6/15

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

Method	Parameter	SDG Location Sample Date Sample ID QC Code Units	92232495 MW-1 1/7/2015 MW-1 FS		92232495 MW-4 1/7/2015 MW-4 FS		92232495 MW-4A 1/7/2015 MW-4A FS		92232495 MW-6 1/7/2015 FD-01 FD		92232495 MW-6 1/7/2015 MW-6 FS		92232495 QC 1/7/2015 TB-01 TB		92232495 QC 1/8/2015 EB-01 EB	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8260	1,1,1-Trichloroethane	UG/L	1 U		4.1		1 U		10 U		10 U		1 U		1 U	
SW8260	1,1,2,2-Tetrachloroethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	1 U		1 U		1 U		10 U		4.7 J		1 U		1 U	
SW8260	1,1,2-Trichloroethane	UG/L	1 U		1 U		1 U		3.2 J		3.3 J		1 U		1 U	
SW8260	1,1-Dichloroethane	UG/L	1 U		0.39 J		1 U		10 U		10 U		1 U		1 U	
SW8260	1,1-Dichloroethene	UG/L	1 U		1 U		1 U		17		16.9		1 U		1 U	
SW8260	1,2,3-Trichlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,2,4-Trichlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,2-Dibromo-3-chloropropane	UG/L	2 U		2 U		2 U		20 U		20 U		2 U		2 U	
SW8260	1,2-Dibromoethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,2-Dichlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,2-Dichloroethane	UG/L	1 UJ		1 UJ		1 UJ		10 U		10 U		1 U		1 U	
SW8260	1,2-Dichloropropane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,3-Dichlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,4-Dichlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	1,4-Dioxane	UG/L	R		R		R		R		R		150 U		150 U	
SW8260	2-Butanone	UG/L	5 U		5 U		5 U		50 UJ		50 UJ		5 U		3.8 J	
SW8260	2-Hexanone	UG/L	5 U		5 U		5 U		50 U		50 U		5 U		5 U	
SW8260	4-Methyl-2-pentanone	UG/L	5 U		5 U		5 U		50 U		50 U		5 U		5 U	
SW8260	Acetic acid, methyl ester	UG/L	10 U		10 U		10 U		100 U		100 U		10 U		10 U	
SW8260	Acetone	UG/L	25 U		25 U		25 U		250 U		250 U		25 U		27.8	
SW8260	Benzene	UG/L	1 U		1 U		1 U		13.2 J		10 UJ		1 U		1 U	
SW8260	Bromochloromethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Bromodichloromethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Bromoform	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Bromomethane	UG/L	2 U		2 U		2 U		20 U		20 U		2 U		2 U	
SW8260	Carbon disulfide	UG/L	2 U		2 U		2 U		20 U		20 U		2 U		2 U	
SW8260	Carbon tetrachloride	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Chlorobenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Chloroethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Chloroform	UG/L	1 U		0.2 J		1 U		5.6 J		5.7 J		1 U		1 U	
SW8260	Chloromethane	UG/L	1 UJ		1 UJ		1 UJ		10 UJ		10 UJ		1 U		1 U	
SW8260	Cis-1,2-Dichloroethene	UG/L	1 U		7		1 U		2.5 J		2.1 J		1 U		1 U	
SW8260	Cis-1,3-Dichloropropene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Cyclohexane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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Method	Parameter	SDG Location Sample Date Sample ID QC Code Units	92232495 MW-1 1/7/2015 MW-1 FS		92232495 MW-4 1/7/2015 MW-4 FS		92232495 MW-4A 1/7/2015 MW-4A FS		92232495 MW-6 1/7/2015 FD-01 FD		92232495 MW-6 1/7/2015 MW-6 FS		92232495 QC 1/7/2015 TB-01 TB		92232495 QC 1/8/2015 EB-01 EB	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8260	Dibromochloromethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Dichlorodifluoromethane	UG/L	1 UJ		1 UJ		1 UJ		10 U		10 U		1 U		1 U	
SW8260	Ethyl benzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Isopropylbenzene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Methyl cyclohexane	UG/L	10 U		10 U		10 U		211		198		10 U		10 U	
SW8260	Methyl Tertbutyl Ether	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Methylene chloride	UG/L	2 U		2 U		2 U		20 U		20 U		2 U		2 U	
SW8260	Styrene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Tetrachloroethene	UG/L	1 U		0.68 J		1 U		5.5 J		4.8 J		1 U		1 U	
SW8260	Toluene	UG/L	1 U		1 U		1 U		3.4 J		10 U		1 U		1 U	
SW8260	trans-1,2-Dichloroethene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	trans-1,3-Dichloropropene	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Trichloroethene	UG/L	1 U		111		1 U		17900		18700		1 U		0.92 J	
SW8260	Trichlorofluoromethane	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Vinyl chloride	UG/L	1 U		1 U		1 U		10 U		10 U		1 U		1 U	
SW8260	Xylene, o	UG/L	1 U		1 U		1 U		3.1 J		12.2		1 U		1 U	
SW8260	Xylenes (m&p)	UG/L	2 U		2 U		2 U		20 U		15.8 J		2 U		2 U	
SW8270	1,2,4,5-Tetrachlorobenzene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,2'-Dichlorodiisopropylether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,3,4,6-Tetrachlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,4,5-Trichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,4,6-Trichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,4-Dichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,4-Dimethylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,4-Dinitrophenol	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ				50 U	
SW8270	2,4-Dinitrotoluene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2,6-Dinitrotoluene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2-Chloronaphthalene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2-Chlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2-Methylnaphthalene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2-Methylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	2-Nitroaniline	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ				50 U	
SW8270	2-Nitrophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	3 & 4 Methylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	3,3'-Dichlorobenzidine	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
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Amec Foster Wheeler 6252-12-0006

Method	Parameter	SDG Location Sample Date Sample ID QC Code Units	92232495 MW-1 1/7/2015 MW-1 FS		92232495 MW-4 1/7/2015 MW-4 FS		92232495 MW-4A 1/7/2015 MW-4A FS		92232495 MW-6 1/7/2015 FD-01 FD		92232495 MW-6 1/7/2015 MW-6 FS		92232495 QC 1/7/2015 TB-01 TB		92232495 QC 1/8/2015 EB-01 EB	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	3-Nitroaniline	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ				50 U	
SW8270	4,6-Dinitro-2-methylphenol	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	
SW8270	4-Bromophenyl phenyl ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	4-Chloro-3-methylphenol	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	
SW8270	4-Chloroaniline	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	
SW8270	4-Chlorophenyl phenyl ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	4-Nitroaniline	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	
SW8270	4-Nitrophenol	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ				50 U	
SW8270	Acenaphthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Acenaphthylene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Acetophenone	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Atrazine	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ				20 U	
SW8270	Benzaldehyde	UG/L	R		R		R		R		R				20 U	
SW8270	Benzo(a)anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Benzo(a)pyrene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Benzo(b)fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Benzo(ghi)perylene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Benzo(k)fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Biphenyl	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Bis(2-Chloroethoxy)methane	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Bis(2-Chloroethyl)ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Bis(2-Ethylhexyl)phthalate	UG/L	6 UJ		6 UJ		6 UJ		6 UJ		6 UJ				6 U	
SW8270	Butylbenzylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Caprolactam	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Carbazole	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Chrysene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Di-n-butylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Di-n-octylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Dibenz(a,h)anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Dibenzofuran	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Diethylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				1.9 J	
SW8270	Dimethylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	
SW8270	Fluorene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ				10 U	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
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		SDG	92232495		92232495		92232495		92232495		92232495		92232495		92232495		92232495	
		Location	MW-1		MW-4		MW-4A		MW-6		MW-6		QC		QC			
		Sample Date	1/7/2015		1/7/2015		1/7/2015		1/7/2015		1/7/2015		1/7/2015		1/8/2015			
		Sample ID	MW-1		MW-4		MW-4A		FD-01		MW-6		TB-01		EB-01			
		QC Code	FS		FS		FS		FD		FS		TB		EB			
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	Hexachlorobenzene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Hexachlorobutadiene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Hexachlorocyclopentadiene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Hexachloroethane	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Indeno(1,2,3-cd)pyrene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Isophorone	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	N-Nitrosodi-n-propylamine	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	N-Nitrosodiphenylamine	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Naphthalene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Nitrobenzene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Pentachlorophenol	UG/L	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ			25	U		
SW8270	Phenanthrene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Phenol	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		
SW8270	Pyrene	UG/L	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ			10	U		

Notes:

UG/L = microgram per liter

Qualifiers-

U = not detected at the reporting limit

UJ = not detected at the reporting limit, estimated

J = result reported is estimated

R = result is rejected

Prepared By: WCG 4/2/15

Checked By: JAR 4/6/15

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

			SDG		92232749		92232749		92232749		92232749		92232749		92232749		92232749	
			Location		MW-2		MW-02		MW-03A		MW-05		MW-05A		MW-06A		MW-07	
			Sample Date		1/8/2015		1/8/2015		1/8/2015		1/9/2015		1/9/2015		1/8/2015		1/9/2015	
			Sample ID		FD-02		MW-2		MW-3A		MW-5		MW-5A		MW-6A		MW-7	
			QC Code		FD		FS		FS		FS		FS		FS		FS	
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8260	1,1,1-Trichloroethane	UG/L	12.5	U	5	U	277	J	25	U	1	U	500	U	2	U		
SW8260	1,1,2,2-Tetrachloroethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	12.5	U	5	U	25	U	25	U	0.21	J	500	U	2	U		
SW8260	1,1,2-Trichloroethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,1-Dichloroethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,1-Dichloroethene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,2,3-Trichlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,2,4-Trichlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,2-Dibromo-3-chloropropane	UG/L	25	U	10	U	50	U	50	U	2	U	1000	U	4	U		
SW8260	1,2-Dibromoethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,2-Dichlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,2-Dichloroethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	0.89	J		
SW8260	1,2-Dichloropropane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,3-Dichlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,4-Dichlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	1,4-Dioxane	UG/L		R		R		R		R		R		R		R		
SW8260	2-Butanone	UG/L	62.5	U	25	U	125	U	125	U	5	U	2500	U	10	U		
SW8260	2-Hexanone	UG/L	62.5	U	25	U	125	U	125	U	5	U	2500	U	10	U		
SW8260	4-Methyl-2-pentanone	UG/L	62.5	U	25	U	125	U	125	U	5	U	2500	U	10	U		
SW8260	Acetic acid, methyl ester	UG/L	125	UJ	50	UJ	250	UJ	250	UJ	10	UJ	5000	UJ	20	UJ		
SW8260	Acetone	UG/L	312	UJ	125	UJ	625	UJ	625	UJ	25	UJ	12500	UJ	50	UJ		
SW8260	Benzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Bromochloromethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Bromodichloromethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Bromoform	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Bromomethane	UG/L	25	UJ	10	UJ	50	UJ	50	UJ	2	UJ	1000	UJ	4	UJ		
SW8260	Carbon disulfide	UG/L	25	U	10	U	50	U	50	U	2	U	1000	U	4	U		
SW8260	Carbon tetrachloride	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Chlorobenzene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Chloroethane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Chloroform	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	7.2			
SW8260	Chloromethane	UG/L	12.5	UJ	5	UJ	25	UJ	25	UJ	1	UJ	500	UJ	2	UJ		
SW8260	Cis-1,2-Dichloroethene	UG/L	12.5	U	5	U	38.3		25	U	0.33	J	500	U	2	U		
SW8260	Cis-1,3-Dichloropropene	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		
SW8260	Cyclohexane	UG/L	12.5	U	5	U	25	U	25	U	1	U	500	U	2	U		

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
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			SDG	92232749		92232749		92232749		92232749		92232749		92232749		
			Location	MW-2		MW-02		MW-03A		MW-05		MW-05A		MW-06A		
			Sample Date	1/8/2015		1/8/2015		1/8/2015		1/9/2015		1/9/2015		1/8/2015		
			Sample ID	FD-02		MW-2		MW-3A		MW-5		MW-5A		MW-6A		
			QC Code	FD		FS		FS		FS		FS		FS		
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8260	Dibromochloromethane	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Dichlorodifluoromethane	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Ethyl benzene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Isopropylbenzene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Methyl cyclohexane	UG/L	125 U		14.7 J		64.8 J		250 U		10 U		5000 U		20 U	
SW8260	Methyl Tertbutyl Ether	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Methylene chloride	UG/L	25 U		10 U		50 U		50 U		2 U		1000 U		4 U	
SW8260	Styrene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Tetrachloroethene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Toluene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	trans-1,2-Dichloroethene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	trans-1,3-Dichloropropene	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Trichloroethene	UG/L	1270		1240		6310		3840		154		62100		195	
SW8260	Trichlorofluoromethane	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Vinyl chloride	UG/L	12.5 U		5 U		25 U		25 U		1 U		500 U		2 U	
SW8260	Xylene, o	UG/L	12.5 U		5 U		13.1 J		25 U		1 U		500 U		2 U	
SW8260	Xylenes (m&p)	UG/L	25 U		10 U		50 U		50 U		2 U		1000 U		4 U	
SW8270	1,2,4,5-Tetrachlorobenzene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,2'-Dichlorodiisopropylether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,3,4,6-Tetrachlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,4,5-Trichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,4,6-Trichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dichlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dimethylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dinitrophenol	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ	
SW8270	2,4-Dinitrotoluene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2,6-Dinitrotoluene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2-Chloronaphthalene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2-Chlorophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2-Methylnaphthalene	UG/L	10 UJ		10 UJ		42.9 J		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2-Methylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	2-Nitroaniline	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ	
SW8270	2-Nitrophenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	3 & 4 Methylphenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	3,3'-Dichlorobenzidine	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

			SDG		92232749		92232749		92232749		92232749		92232749		92232749		92232749	
			Location		MW-2		MW-02		MW-03A		MW-05		MW-05A		MW-06A		MW-07	
			Sample Date		1/8/2015		1/8/2015		1/8/2015		1/9/2015		1/9/2015		1/8/2015		1/9/2015	
			Sample ID		FD-02		MW-2		MW-3A		MW-5		MW-5A		MW-6A		MW-7	
			QC Code		FD		FS		FS		FS		FS		FS		FS	
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	3-Nitroaniline	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ	
SW8270	4,6-Dinitro-2-methylphenol	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	
SW8270	4-Bromophenyl phenyl ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	4-Chloro-3-methylphenol	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	
SW8270	4-Chloroaniline	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	
SW8270	4-Chlorophenyl phenyl ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	4-Nitroaniline	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	
SW8270	4-Nitrophenol	UG/L	50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ		50 UJ	
SW8270	Acenaphthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Acenaphthylene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Acetophenone	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Atrazine	UG/L	20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ		20 UJ	
SW8270	Benzaldehyde	UG/L	R		R		R		R		R		R		R		R	
SW8270	Benzo(a)anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Benzo(a)pyrene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Benzo(b)fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Benzo(ghi)perylene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Benzo(k)fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Biphenyl	UG/L	10 UJ		10 UJ		3.9 J		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Bis(2-Chloroethoxy)methane	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Bis(2-Chloroethyl)ether	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Bis(2-Ethylhexyl)phthalate	UG/L	6 UJ		6 UJ		6 UJ		6 UJ		6 UJ		6 UJ		6 UJ		6 UJ	
SW8270	Butylbenzylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Caprolactam	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Carbazole	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Chrysene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Di-n-butylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Di-n-octylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Dibenz(a,h)anthracene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Dibenzofuran	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Diethylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Dimethylphthalate	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Fluoranthene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Fluorene	UG/L	10 UJ		10 UJ		2 J		10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

			SDG	92232749	92232749	92232749	92232749	92232749	92232749	92232749		
			Location	MW-2	MW-02	MW-03A	MW-05	MW-05A	MW-06A	MW-07		
			Sample Date	1/8/2015	1/8/2015	1/8/2015	1/9/2015	1/9/2015	1/8/2015	1/9/2015		
			Sample ID	FD-02	MW-2	MW-3A	MW-5	MW-5A	MW-6A	MW-7		
			QC Code	FD	FS	FS	FS	FS	FS	FS		
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	Hexachlorobenzene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Hexachlorobutadiene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Hexachlorocyclopentadiene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Hexachloroethane	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Indeno(1,2,3-cd)pyrene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Isophorone	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	N-Nitrosodi-n-propylamine	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	N-Nitrosodiphenylamine	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Naphthalene	UG/L	10 UJ		10 UJ	14.1 J	10 UJ		10 UJ		10 UJ	
SW8270	Nitrobenzene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Pentachlorophenol	UG/L	25 UJ		25 UJ		25 UJ		25 UJ		25 UJ	
SW8270	Phenanthrene	UG/L	10 UJ		10 UJ	3.2 J	10 UJ		10 UJ		10 UJ	
SW8270	Phenol	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	
SW8270	Pyrene	UG/L	10 UJ		10 UJ		10 UJ		10 UJ		10 UJ	

Notes:

UG/L = microgram per liter

Qualifiers-

U = not detected at the reporting limit

UJ = not detected at the reporting limit, estimated

J = result reported is estimated

R = result is rejected

Prepared By: WCG 4/2/15

Checked By: JAR 4/6/15

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

			SDG	92232749		92232749		92233653		92233653		92233653		92233653		92233653	
			Location	MW-07A		QC		MW-10		MW-10A		MW-11		MW-11A		QC	
			Sample Date	1/9/2015		1/8/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015	
			Sample ID	MW-7A		TB-02		MW-10		MW-10A		MW-11		MW-11A		TB-03	
			QC Code	FS		TB		FS		FS		FS		FS		TB	
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	
SW8260	1,1,1-Trichloroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,1,2,2-Tetrachloroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,1,2-Trichloroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,1-Dichloroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,1-Dichloroethene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2,3-Trichlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2,4-Trichlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2-Dibromo-3-chloropropane	UG/L	1000 U		2 U		2 U		2 U		2 U		2 U		2 U		
SW8260	1,2-Dibromoethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2-Dichlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2-Dichloroethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,2-Dichloropropane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,3-Dichlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,4-Dichlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	1,4-Dioxane	UG/L	R		150 U		R		R		R		R		150 U		
SW8260	2-Butanone	UG/L	2500 U		5 U		5 U		5 U		5 U		5 U		5 U		
SW8260	2-Hexanone	UG/L	2500 U		5 U		5 U		5 U		5 U		5 U		5 U		
SW8260	4-Methyl-2-pentanone	UG/L	2500 U		5 U		5 U		5 U		5 U		5 U		5 U		
SW8260	Acetic acid, methyl ester	UG/L	5000 UJ		10 U		10 U		10 U		10 U		10 U		10 U		
SW8260	Acetone	UG/L	12500 UJ		25 U		25 U		25 U		25 U		25 U		25 U		
SW8260	Benzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Bromochloromethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Bromodichloromethane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Bromoform	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Bromomethane	UG/L	1000 UJ		2 U		2 UJ		2 UJ		2 UJ		2 UJ		2 UJ		
SW8260	Carbon disulfide	UG/L	1000 U		2 U		2 U		2 U		2 U		2 U		2 U		
SW8260	Carbon tetrachloride	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Chlorobenzene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Chloroethane	UG/L	500 U		1 U		1 UJ		1 UJ		1 UJ		1 UJ		1 U		
SW8260	Chloroform	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Chloromethane	UG/L	500 UJ		1 U		1 UJ		1 UJ		1 UJ		1 UJ		1 UJ		
SW8260	Cis-1,2-Dichloroethene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Cis-1,3-Dichloropropene	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		
SW8260	Cyclohexane	UG/L	500 U		1 U		1 U		1 U		1 U		1 U		1 U		

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

			SDG	92232749	92232749	92233653	92233653	92233653	92233653	92233653		
			Location	MW-07A	QC	MW-10	MW-10A	MW-11	MW-11A	QC		
			Sample Date	1/9/2015	1/8/2015	1/15/2015	1/15/2015	1/15/2015	1/15/2015	1/15/2015		
			Sample ID	MW-7A	TB-02	MW-10	MW-10A	MW-11	MW-11A	TB-03		
			QC Code	FS	TB	FS	FS	FS	FS	TB		
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8260	Dibromochloromethane	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Dichlorodifluoromethane	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Ethyl benzene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Isopropylbenzene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Methyl cyclohexane	UG/L	5000 U		10 U		10 U		10 U		10 U	
SW8260	Methyl Tertbutyl Ether	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Methylene chloride	UG/L	1000 U		2 U		2 U		2 U		2 U	
SW8260	Styrene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Tetrachloroethene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Toluene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	trans-1,2-Dichloroethene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	trans-1,3-Dichloropropene	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Trichloroethene	UG/L	52800		1 U		1 U		1 U		2.4	
SW8260	Trichlorofluoromethane	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Vinyl chloride	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Xylene, o	UG/L	500 U		1 U		1 U		1 U		1 U	
SW8260	Xylenes (m&p)	UG/L	1000 U		2 U		2 U		2 U		2 U	
SW8270	1,2,4,5-Tetrachlorobenzene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,2'-Dichlorodiisopropylether	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,3,4,6-Tetrachlorophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,4,5-Trichlorophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,4,6-Trichlorophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dichlorophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dimethylphenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,4-Dinitrophenol	UG/L	50 UJ				50 UJ		50 UJ		50 UJ	
SW8270	2,4-Dinitrotoluene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2,6-Dinitrotoluene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2-Chloronaphthalene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2-Chlorophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2-Methylnaphthalene	UG/L	1.2 J				10 UJ		10 UJ		10 UJ	
SW8270	2-Methylphenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	2-Nitroaniline	UG/L	50 UJ				50 UJ		50 UJ		50 UJ	
SW8270	2-Nitrophenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	3 & 4 Methylphenol	UG/L	10 UJ				10 UJ		10 UJ		10 UJ	
SW8270	3,3'-Dichlorobenzidine	UG/L	20 UJ				20 UJ		20 UJ		20 UJ	

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

		SDG	92232749		92232749		92233653		92233653		92233653		92233653		92233653	
		Location	MW-07A		QC		MW-10		MW-10A		MW-11		MW-11A		QC	
		Sample Date	1/9/2015		1/8/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015	
		Sample ID	MW-7A		TB-02		MW-10		MW-10A		MW-11		MW-11A		TB-03	
		QC Code	FS		TB		FS		FS		FS		FS		TB	
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	3-Nitroaniline	UG/L	50 UJ				50 UJ		50 UJ		50 UJ		50 UJ			
SW8270	4,6-Dinitro-2-methylphenol	UG/L	20 UJ				20 UJ		20 UJ		20 UJ		20 UJ			
SW8270	4-Bromophenyl phenyl ether	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	4-Chloro-3-methylphenol	UG/L	20 UJ				20 UJ		20 UJ		20 UJ		20 UJ			
SW8270	4-Chloroaniline	UG/L	20 UJ				20 UJ		20 UJ		20 UJ		20 UJ			
SW8270	4-Chlorophenyl phenyl ether	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	4-Nitroaniline	UG/L	20 UJ				20 UJ		20 UJ		20 UJ		20 UJ			
SW8270	4-Nitrophenol	UG/L	50 UJ				50 UJ		50 UJ		50 UJ		50 UJ			
SW8270	Acenaphthene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Acenaphthylene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Acetophenone	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Anthracene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Atrazine	UG/L	20 UJ				20 UJ		20 UJ		20 UJ		20 UJ			
SW8270	Benzaldehyde	UG/L	R				R		R		R		R			
SW8270	Benzo(a)anthracene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Benzo(a)pyrene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Benzo(b)fluoranthene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Benzo(ghi)perylene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Benzo(k)fluoranthene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Biphenyl	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Bis(2-Chloroethoxy)methane	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Bis(2-Chloroethyl)ether	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Bis(2-Ethylhexyl)phthalate	UG/L	6 UJ				6 UJ		6 UJ		6 UJ		6 UJ			
SW8270	Butylbenzylphthalate	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Caprolactam	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Carbazole	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Chrysene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Di-n-butylphthalate	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Di-n-octylphthalate	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Dibenz(a,h)anthracene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Dibenzofuran	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Diethylphthalate	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Dimethylphthalate	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Fluoranthene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			
SW8270	Fluorene	UG/L	10 UJ				10 UJ		10 UJ		10 UJ		10 UJ			

TABLE C.4
Data Validation Report: Summary of Analytical Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler 6252-12-0006

		SDG	92232749		92232749		92233653		92233653		92233653		92233653		92233653	
		Location	MW-07A		QC		MW-10		MW-10A		MW-11		MW-11A		QC	
		Sample Date	1/9/2015		1/8/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015		1/15/2015	
		Sample ID	MW-7A		TB-02		MW-10		MW-10A		MW-11		MW-11A		TB-03	
		QC Code	FS		TB		FS		FS		FS		FS		TB	
Method	Parameter	Units	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SW8270	Hexachlorobenzene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Hexachlorobutadiene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Hexachlorocyclopentadiene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Hexachloroethane	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Indeno(1,2,3-cd)pyrene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Isophorone	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	N-Nitrosodi-n-propylamine	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	N-Nitrosodiphenylamine	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Naphthalene	UG/L	1	J			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Nitrobenzene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Pentachlorophenol	UG/L	25	UJ			25	UJ	25	UJ	25	UJ	25	UJ		
SW8270	Phenanthrene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Phenol	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		
SW8270	Pyrene	UG/L	10	UJ			10	UJ	10	UJ	10	UJ	10	UJ		

Notes:

UG/L = microgram per liter

Qualifiers-

U = not detected at the reporting limit

UJ = not detected at the reporting limit, estimated

J = result reported is estimated

R = result is rejected

Prepared By: WCG 4/2/15

Checked By: JAR 4/6/15

APPENDIX D

SOIL BORING LOGS

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-24B (2)

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/20/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
0-5			70%		Concrete	Reddish brown to brown, slightly micaceous, fine to medium sand, little to some silt, moist, gneissic appearance
5				0.0		
				0.0		
			5-10	0.0		
			90%	0.0		
				0.0		
				0.0		
10				0.0		
			10-15	0.0		
			100%	0.0		
				0.0		
				0.0		
15				0.0		
			15-20	0.0		
			90%	15.4		
				21.4		
				24.3		
20	DT (slight)			39.4		Brown, highly micaceous, silty fine to medium sand, slight odor, foliated (strong odor at 18 feet)
			20-25	127.4		
			90%	106		
				387		
	DT (slight)			413		
				225		
25	DT (positive)			889		
			25-30	167		
			100%	191		Brown to dark brown, micaceous, fine to medium sand, little to some silt, very moist, odor, gneissic appearance
	DT (positive)			509		
				53		
30	DT (negative)			135		
			30-35	35.4		
			80%	62.7		
				22		
				135		
35	DT (negative)			59.8		
			35-40	211		
			95%	380		
				273		
	DT (negative)			76.5		
40				243		
			40-45	1509		
	DT (negative)			183		Dark brown, micaceous, fine to medium sand, little to some silt, foliated
				124		
				71.1		
45	DT (negative)					Boring terminated at 45 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-24B (3)

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/21/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
5						No macro-core sampling to 25 feet
10						
15						
20						
25						
		SS-24B-27	25-30 100%	365		Dark brown, highly micaceous, fine to medium sand, little/some silt, foliated
		DT (negative)		133		
		DT (positive)		339		Dark brown, highly micaceous, fine to medium sand, little to some silt, massive appearance
		DT (slight)		165		
30						Boring terminated at 30 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-31B

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/22/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
0-5			60%		Concrete	Concrete
5-10			80%			Orange to brown and red to brownish orange, slightly micaceous to micaceous, fine to medium sand, little/some silt, massive with some thin bedding
10-15			80%			(Sample collected from 19 to 25 feet for surfactant flooding bench testing)
15-20			85%			
20-30			100%			

Boring terminated at 25 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-36B

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Checked By: R. Clark
Equipment: Geoprobe 7822DT	
Approximate Ground Surface Elevation (feet): 2417.3 ft.	Boring Date: 1/20/2015

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
0-5			90%	0.4		Reddish brown, micaceous, silty fine to coarse sand, foliated, slightly moist, zones that are fine to medium sand, little silt
5-10			100%	0.4		
				0.5		
				0.7		
10-15			100%	2.0		
				0.2		
				0.8		
				1.3		
				2.6		
15-20			100%	4.7		
				3.5		
				5.9		Orangish brown to brown, slightly micaceous, fine to medium sand, little to some silt, slightly moist to moist, gneissic appearance
				10.3		
20-25			100%	55.1		
				443		
				626		
				648		
				486		Gray, slightly micaceous, fine to medium sand, little to some silt, slightly moist to moist, gneissic appearance, strong odor
				664		
25-30			80%	771		(Potential oil seam at 24.5 feet, as viewed through liner)
				250		(Weathered rock from 26.5 to 27.5 feet)
				568		
				328		
				588		
				661		
				323		
				207		
				128		
30						Boring terminated at 30 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-41B (2)

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/22/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
5						No macro-core sampling to 15 feet
10						
15			15-20 100%	206 397 441 833		Brown to dark brown, micaceous to highly micaceous, fine to medium sand, little/some silt, massive appearance with dark minimal weathering, zones of foliation
20	DT (positive)	DT (positive)	20-25 82%	3685 3618 1609 911		(Sample collected from 17.5 to 27 feet for ISCO bench testing)
25	DT (positive)	DT (positive)	25-30 80%	4254 3760 13480 891		
30	DT (positive)		30-35 80%	3650 378 66.1 13.8		
35						Boring terminated at 35 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-42B

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/21/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
			0-5 75%	1.9		Concrete
				7.1		Orangish brown, slightly micaceous to micaceous, fine to medium sand, little/some silt, little coarse sand, massive with dark mineral weathering, sl. moist to moist
				2.5		
5				2.4		(0.5" quartz seam with iron staining at 24.5 feet)
			5-10 90%	1.8		
				2.7		(wet from 25 to 27 feet)
				3.1		
				4.7		(2" quartz seam with iron staining at 39.8 feet)
				7.2		
10			10-15 90%	14.3		
				35.4		
				14.8		
				26.3		
				92.3		
15		DT (slight)	15-20 80%	208		
				297		
				396		
				384		
		DT (positive)		397		
20			20-25 100%	319		
		DT (slight)		155		
				171		
		DT (positive)		885		
				1093		
25			25-30 100%	660		
		DT (positive)		101		
				177		
				606		
		DT (positive)		873		
30		DT (positive)	30-35 100%	1038		
		SS-42B-30		983		
		DT (positive)		997		
				341		
		DT (negative)		387		
35			35-40 95%	323		
		DT (negative)		917		
		SS-42B-37		1438		
		DT (negative)		1090		
				53.7		
40			40-45 95%	273		Dark brown, highly micaceous, fine to medium sand, little to some silt, slightly foliated to foliated, moist
				65.3		
				122		
		DT (negative)		206		
45		DT (negative)		46.4		
				134		Boring terminated at 45 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-42C

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/22/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description	
5						No macro-core sampling to 20 feet	
10							
15							
20							
25							
20		DT (positive)	20-25 85%	937 485 409 364 639	   Brown to orangish brown, slightly micaceous, fine to medium sand, little to some silt, moist, odor, massive appearance (Sample collected from 20 to 28.5 feet for thermal bench testing)		
25		DT (positive)	25-30 25%	753 4685			
30	 	DT (positive) DT (slight)	30-35 80%	802 568 964 2082			
35		DT (negative)		876 221 138			
40		DT (negative)					
Boring terminated at 40 feet							

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SS-42D

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/22/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
5						No macro-core sampling to 20 feet
10						
15						
20						
25						
20		DT (positive)	20-25 85%	643		Brown to orangish brown, slightly micaceous, fine to medium sand, little to some silt, moist, odor, massive appearance (Sample collected from 20 to 28 feet for thermal bench testing) (Sample collected from 20 to 34 feet for ISCO bench testing)
		DT (positive)		494		
		DT (positive)		445		
25		DT (positive)		378		
		DT (positive)		778		
				15000		
				1300		
		DT (positive)		1117		
30		DT (positive) DT (positive)		15000		
		DT (positive)				
			868			
			557			
35				357		

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-43B

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Checked By: R. Clark
Equipment: Geoprobe 7822DT	
Approximate Ground Surface Elevation (feet): 2417.3 ft.	Boring Date: 1/21/2015

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
			0-5 75%	0.0		Concrete
5				0.0		Reddish brown, slightly micaceous, fine to medium sand, little to some silt, massive appearance with dark minimal weathering, slightly moist
				0.0		
				0.0		
				0.0		
			5-10 95%	0.0		
				0.1		
				0.1		
				0.4		Dark brown, highly micaceous, silty fine to medium sand, slightly foliated to strongly foliated, slightly moist
10				0.3		
			10-15 95%	0.3		
				16.8		
				26.3		
				55.9		
15		DT (positive)		113		
			15-20 100%	261		
		DT (positive)		117		Red brown to dark brown, micaceous, silty fine to medium sand, massive appearance with slight bedding and dark minimal weathering, moist to wet, zones of foliation
				413		
				387		
20		DT (positive)		525		(1" quartz seam at 17 feet)
			20-25 100%	345		
		DT (positive)		408		(wet with apparent sheen from 36 to 37 feet)
				312		
				326		
25		DT (positive)		461		
		DT (positive)	25-30 95%	667		
				396		
				383		
				313		
				363		
30		DT (positive)	30-35 100%	389		
		DT (positive)		397		
		SS-43B-32		398		
		DT (positive)		387		
		DT (positive)		385		
35			35-40 100%	104		
		DT (positive)		533		
				63.2		
				138		
40		DT (negative)		65.1		
			40-45 80%	94.5		
				398		
		DT (negative)		748		
		SS-43B-43		359		
		DT (negative)		280		
		DT (negative)				Geoprobe refusal at 44.5 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-43C

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/21/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
						Concrete
						Reddish brown, slightly micaceous, fine to medium sand, little to some silt, massive appearance with dark minimal weathering, slightly moist
0.0						
0.0						
0.4						
0.5						
1.6						
4.7						
4.8						
4.2						
4.9						
10.3						
13.1						Dark brown, highly micaceous, fine to medium sand, little to some silt, foliated
12.8						(1.5" quartz-rich seam at 14 feet)
57.8						
55.1						
119						
199						
518						
20		SS-43C-19				Boring terminated at 20 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-47B (2)

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/21/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
			0-5 70%		Asphalt/concrete	
				2.1		Light orange, brown, slightly micaceous, fine to medium sand, little to some silt, dark mineral weathering, massive appearance
				1.1		
				2.7		
				0.9		
5			5-10 80%	0.9		
				0.9		
				1.7		
				1.3		Gray, fine to medium sand, little silt, gniessic appearance, bedded, moist
				3.0		(dark spots, possible oil staining from 14 to 15 feet)
10			10-15 100%	1.5		
				83.6		
				213		
				137		
				322		
15	DT (slight)		15-20 100%	711		
				1723		
	DT (positive)			1795		
	DT (slight)			1800		
				997		
20			20-25 80%	1109		
				152		
				617		
	DT (positive)			558		
	DT (positive)			525		
25	SB-47B-24 DT (slight)			1252		

Boring terminated at 25 feet

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

BORING LOG

Amec Foster Wheeler Environment & Infrastructure, Inc.
1308 Patton Avenue
Asheville, North Carolina 28806

Boring ID: SB-68B

Project: CTS of Asheville, Inc. Superfund Site	Drilling Company: Zebra Environmental
Location: Asheville, North Carolina	Driller: Dan Ferrell (NC 3221)
Project Number: 6252120006	Boring Method: Direct-Push Technology
Logged By: S. Kelly	Equipment: Geoprobe 7822DT
Checked By: R. Clark	Boring Date: 1/20/2015
Approximate Ground Surface Elevation (feet): 2417.3 ft.	

Depth (feet)	Sample	Sample Name	Recovery (%)	PID (ppm)	Lithology	Lithologic Description
0-5			80%	0.2		Organish-red, slightly micaceous, sandy silt, slightly moist
5-10			100%	0.1 0.2 0.2 0.3 0.1 0.3 0.4 0.2 0.4		Reddish orange, slightly micaceous, fine to medium sand, little to some sand, slightly moist, no apparent structure
10-15			95%	0.2 0.6 0.3 0.3 0.1		Brownish red, micaceous, fine to medium sand, little to some silt, slightly moist
15-20			80%	0.1 1.0 1.6 2.6 3.2		Orangish brown, slightly micaceous, fine to medium sand, little to some silt
20-25			80%	7.0 2.1 2.6 2.6 5.0		Orangish brown to dark brown, silty fine to medium sand, foliated, moist
25-30			80%	6.6 13.9 3.6 6.9 29.6		Brown to dark brown, micaceous, silty fine to medium sand, moist, odor
30-35			100%	34.9 171 235 298 375		Brown to dark brown, micaceous, silty fine to medium sand, moist, odor, foliated
35-40	DT (slight)		100%	211 555 240 248 369		Brown to dark brown, micaceous, fine to medium sand, little to some silt, wet, massive to slightly beaded appearance
40-45	DT (positive)		80%	301 340 556 353		Orangish brown, highly micaceous, silty sand, foliated
45-50	DT (positive)		80%	391 500 599 663		Geoprobe refusal at 52 feet
50-52	DT (positive)		100%	182 335 581 82 137		

REMARKS:
PID (ppm) = Photoionization Detector (parts per million)
DT = dye test

APPENDIX E

MONITORING WELL CONSTRUCTION RECORDS

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

MARK IRELAND

Well Contractor Name

A - 4163

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- ☐ Agricultural ☐ Municipal/Public
☐ Geothermal (Heating/Cooling Supply) ☐ Residential Water Supply (single)
☐ Industrial/Commercial ☐ Residential Water Supply (shared)
☐ Irrigation

Non-Water Supply Well:

- ☒ Monitoring ☐ Recovery

Injection Well:

- ☐ Aquifer Recharge ☐ Groundwater Remediation
☐ Aquifer Storage and Recovery ☐ Salinity Barrier
☐ Aquifer Test ☐ Stormwater Drainage
☐ Experimental Technology ☐ Subsidence Control
☐ Geothermal (Closed Loop) ☐ Tracer
☐ Geothermal (Heating/Cooling Return) ☐ Other (explain under #21 Remarks)

4. Date Well(s) Completed: 02/23/15 Well ID# MW-12

5a. Well Location:

CTS CORPORATION

Facility/Owner Name

Facility ID# (if applicable)

235 MILLS GAP ROAD ASHEVILLE 28803

Physical Address, City, and Zip

BUNCOMBE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35° 29' 34.36" N 82° 30' 22.64" W

6. Is (are) the well(s): ☒ Permanent or ☐ Temporary

7. Is this a repair to an existing well: ☐ Yes or ☒ No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 40.0 (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 13.0 (ft.)
If water level is above casing, use "+ "

11. Borehole diameter: 8.0 (in.)

12. Well construction method: AUGER
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) Method of test:

13b. Disinfection type: Amount:

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0.0 ft.	10.0 ft.	2.0 in.	SCH 40	SS
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
10.0 ft.	40.0 ft.	2.0 in.	.010	SCH 40	SS
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0.0 ft.	4.0 ft.	PORTLAND BENTONITE	SLURRY
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
8.0 ft.	40.0 ft.	20-40	FINE SILICA SAND
ft.	ft.		

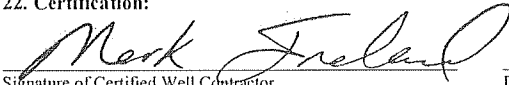
20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0.0 ft.	5.0 ft.	CONCRETE
5.0 ft.	40.0 ft.	BROWN SILTY SAND
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

BENTONITE SEAL FROM 4.0 TO 8.0 FEET

22. Certification:

 01/27/15
Signature of Certified Well Contractor Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. **For All Wells:** Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. **For Injection Wells:** In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. **For Water Supply & Injection Wells:** In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

MARK IRELAND

Well Contractor Name

A - 4163

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- ☐ Agricultural ☐ Municipal/Public
☐ Geothermal (Heating/Cooling Supply) ☐ Residential Water Supply (single)
☐ Industrial/Commercial ☐ Residential Water Supply (shared)
☐ Irrigation

Non-Water Supply Well:

- ☒ Monitoring ☐ Recovery

Injection Well:

- ☐ Aquifer Recharge ☐ Groundwater Remediation
☐ Aquifer Storage and Recovery ☐ Salinity Barrier
☐ Aquifer Test ☐ Stormwater Drainage
☐ Experimental Technology ☐ Subsidence Control
☐ Geothermal (Closed Loop) ☐ Tracer
☐ Geothermal (Heating/Cooling Return) ☐ Other (explain under #21 Remarks)

4. Date Well(s) Completed: 02/23/15 Well ID# MW-13

5a. Well Location:

CTS CORPORATION

Facility/Owner Name

Facility ID# (if applicable)

235 MILLS GAP ROAD ASHEVILLE 28803

Physical Address, City, and Zip

BUNCOMBE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35° 29' 33.58" N 82° 30' 23.18" W

6. Is (are) the well(s): ☒ Permanent or ☐ Temporary

7. Is this a repair to an existing well: ☐ Yes or ☒ No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 45.0 (ft.)
For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 13.0 (ft.)
If water level is above casing, use "+ "

11. Borehole diameter: 8.0 (in.)

12. Well construction method: AUGER
(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) Method of test:

13b. Disinfection type: Amount:

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0.0	ft.	10.0	ft.	2.0 in. SCH 40 SS
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
10.0	ft.	45.0	ft.	2.0 in. .010	SCH 40 SS
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0.0	ft.	4.0	ft. PORTLAND BENTONITE SLURRY
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
8.0	ft.	45.0	ft. 20-40 FINE SILICA SAND
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM		TO		DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0.0	ft.	5.0	ft.	CONCRETE
5.0	ft.	45.0	ft.	BROWN SILTY SAND
	ft.		ft.	
	ft.		ft.	
	ft.		ft.	
	ft.		ft.	
	ft.		ft.	

21. REMARKS

BENTONITE SEAL FROM 4.0 TO 8.0 FEET

22. Certification:

Mark Ireland

Signature of Certified Well Contractor

01/27/15

Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

WELL CONSTRUCTION RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

MARK IRELAND

Well Contractor Name

A - 4163

NC Well Contractor Certification Number

GEOLOGIC EXPLORATION, INC

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

- ☐ Agricultural ☐ Municipal/Public
☐ Geothermal (Heating/Cooling Supply) ☐ Residential Water Supply (single)
☐ Industrial/Commercial ☐ Residential Water Supply (shared)
☐ Irrigation

Non-Water Supply Well:

- ☒ Monitoring ☐ Recovery

Injection Well:

- ☐ Aquifer Recharge ☐ Groundwater Remediation
☐ Aquifer Storage and Recovery ☐ Salinity Barrier
☐ Aquifer Test ☐ Stormwater Drainage
☐ Experimental Technology ☐ Subsidence Control
☐ Geothermal (Closed Loop) ☐ Tracer
☐ Geothermal (Heating/Cooling Return) ☐ Other (explain under #21 Remarks)

4. Date Well(s) Completed: 02/25/15 Well ID# MW-14

5a. Well Location:

CTS CORPORATION

Facility/Owner Name

Facility ID# (if applicable)

235 MILLS GAP ROAD ASHEVILLE 28803

Physical Address, City, and Zip

BUNCOMBE

County

Parcel Identification No. (PIN)

5b. Latitude and Longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35° 29' 32.96" N 82° 30' 23.26"

6. Is (are) the well(s): ☒ Permanent or ☐ Temporary

7. Is this a repair to an existing well: ☐ Yes or ☒ No

If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. Number of wells constructed: 1

For multiple injection or non-water supply wells ONLY with the same construction, you can submit one form.

9. Total well depth below land surface: 30.0 (ft.)

For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: 13.0 (ft.)

If water level is above casing, use "+"

11. Borehole diameter: 8.0 (in.)

12. Well construction method: AUGER

(i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) Method of test:

13b. Disinfection type: Amount:

For Internal Use ONLY:

14. WATER ZONES

FROM	TO	DESCRIPTION
ft.	ft.	
ft.	ft.	

15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
ft.	ft.	in.		

16. INNER CASING OR TUBING (geothermal closed-loop)

FROM	TO	DIAMETER	THICKNESS	MATERIAL
0.0 ft.	10.0 ft.	2.0 in.	SCH 40	SS
ft.	ft.	in.		

17. SCREEN

FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
10.0 ft.	30.0 ft.	2.0 in.	.010	SCH 40	SS
ft.	ft.	in.			

18. GROUT

FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT
0.0 ft.	4.0 ft.	PORTLAND BENTONITE	SLURRY
ft.	ft.		
ft.	ft.		

19. SAND/GRAVEL PACK (if applicable)

FROM	TO	MATERIAL	EMPLACEMENT METHOD
8.0 ft.	30.0 ft.	20-40	FINE SILICA SAND
ft.	ft.		

20. DRILLING LOG (attach additional sheets if necessary)

FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)
0.0 ft.	5.0 ft.	ASPHALT
5.0 ft.	30.0 ft.	BROWN SILTY SAND
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	
ft.	ft.	

21. REMARKS

BENTONITE SEAL FROM 4.0 TO 8.0 FEET

22. Certification:



Signature of Certified Well Contractor

01/27/15

Date

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well construction details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

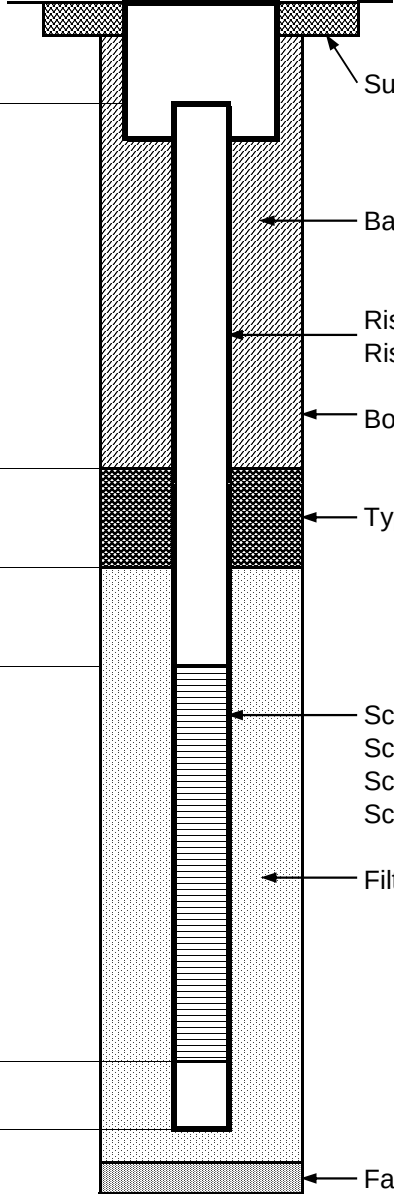
24a. For All Wells: Submit this form within 30 days of completion of well construction to the following:

Division of Water Quality, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

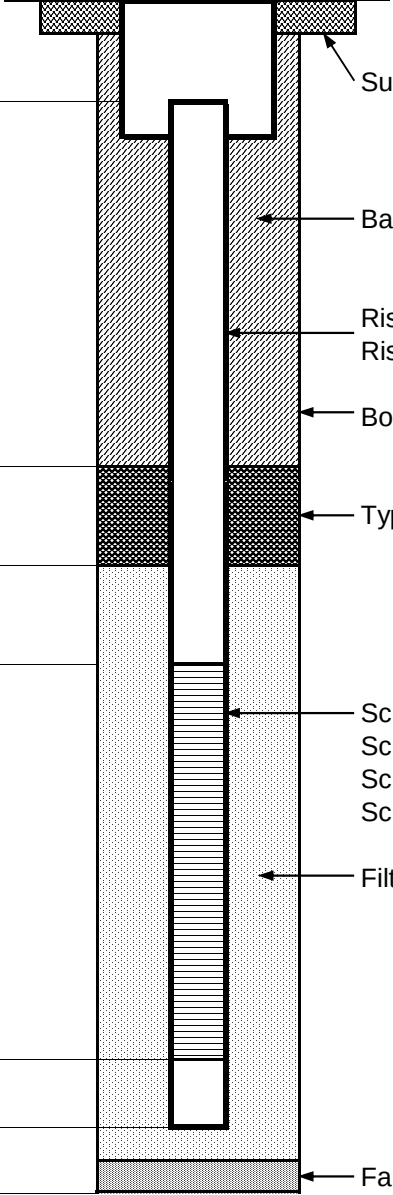
24b. For Injection Wells: In addition to sending the form to the address in 24a above, also submit a copy of this form within 30 days of completion of well construction to the following:

Division of Water Quality, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

24c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well construction to the county health department of the county where constructed.

MONITORING WELL CONSTRUCTION DETAIL			WELL ID	
CTS of Asheville, Inc. Superfund Site			MW-12	
Amec Foster Wheeler Project 6252-12-0006				
Date of Installation: 2/23/15		Depth to Water: 22.42 ft btoc (3/18/15)	Completed By: Susan Kelly, PE, LG	
Drilling Method: 4.25" ID auger			Measuring Point (MP)	
Contractor: Geologic Exploration		Northing: 652735.2784	Type: ground surface	
Driller: Mark Ireland (NC #4163)		Easting: 956547.0455	Elevation (ft msl): 2,418.07	
Item	Depth below MP (ft)	Description		
Riser Pipe:	0.4			
		Surface Seal Type:	concrete	
		Backfill/Grout Type:	Portland cement/ bentonite	
		Riser Pipe Type:	Type 304 stainless steel	
		Riser Pipe ID:	2 inch	
		Borehole Diameter:	8 inch	
Top of Seal:	3.7	Type of Seal:	3/8-inch bentonite chips	
Top of Filter Pack:	7.9			
Top of Screen:	10.6	Screen Type:	Type 304 stainless steel	
		Screen ID:	2 inch	
		Screen Slot Size:	0.010 inch	
		Screen Length:	29.7 feet	
		Filter Pack Type:	#2 silica sand	
Bottom of Screen:	40.3			
End Cap:	40.6			
Drilled Depth:	40.6	Fallback/Backfill:	0.0 feet	
Notes: drill rig: Diedrich D120				

MONITORING WELL CONSTRUCTION DETAIL		WELL ID
CTS of Asheville, Inc. Superfund Site Amec Foster Wheeler Project 6252-12-0006		MW-13
Date of Installation: 2/23/15	Depth to Water: 18.45 ft btoc (3/26/15)	Completed By: Susan Kelly, PE, LG
Drilling Method: 4.25" ID auger		Measuring Point (MP)
Contractor: Geologic Exploration	Northing: 652650.6432	Type: ground surface
Driller: Mark Ireland (NC #4163)	Easting: 956494.0951	Elevation (ft msl): 2,418.12

Item	Depth below MP (ft)	Description
Riser Pipe:	0.3	 Surface Seal Type: concrete
		Backfill/Grout Type: Portland cement/bentonite
		Riser Pipe Type: Type 304 stainless steel
		Riser Pipe ID: 2 inch
		Borehole Diameter: 8 inch
Top of Seal:	4.0	
Top of Filter Pack:	7.5	Type of Seal: 3/8-inch bentonite chips
Top of Screen:	10.3	
		Screen Type: Type 304 stainless steel
		Screen ID: 2 inch
		Screen Slot Size: 0.010 inch
		Screen Length: 34.7 feet
		Filter Pack Type: #2 silica sand
Bottom of Screen:	45.0	
End Cap:	45.3	
Drilled Depth:	45.3	Fallback/Backfill: 0.0 feet

Notes: drill rig: Diedrich D120

MONITORING WELL CONSTRUCTION DETAIL		WELL ID
CTS of Asheville, Inc. Superfund Site Amec Foster Wheeler Project 6252-12-0006		MW-14
Date of Installation: 2/25/15	Depth to Water: 18.10 ft btoc (3/26/15)	Completed By: Susan Kelly, PE, LG
Drilling Method: 4.25" ID auger		Measuring Point (MP)
Contractor: Geologic Exploration	Northing: 652588.0319	Type: ground surface
Driller: Mark Ireland (NC #4163)	Easting: 956478.0460	Elevation (ft msl): 2,417.93

Item	Depth below MP (ft)	Description
Riser Pipe:	0.6	Surface Seal Type: concrete Backfill/Grout Type: Portland cement/bentonite Riser Pipe Type: Type 304 stainless steel Riser Pipe ID: 2 inch Borehole Diameter: 8 inch
Top of Seal:	4.5	
Top of Filter Pack:	7.5	Type of Seal: 3/8-inch bentonite chips
Top of Screen:	10.4	
		Screen Type: Type 304 stainless steel Screen ID: 2 inch Screen Slot Size: 0.010 inch Screen Length: 19.7 feet
		Filter Pack Type: #2 silica sand
Bottom of Screen:	30.1	
End Cap:	30.4	
Drilled Depth:	30.4	Fallback/Backfill: 0.0 feet

Notes: drill rig: Diedrich D120

APPENDIX F

REPORT OF LNAPL PROPERTIES TESTING



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

April 14, 2015

Susan Kelly, PE, LG
Amec Foster Wheeler
1308 Patton Ave.
Asheville, NC 28806

Re: PTS File No: 45184
Physical Properties Data
CTS of Asheville - RI/FS AOC; 6252120006

Dear Ms. Kelly:

Please find enclosed report for Physical Properties analyses conducted upon the sample received from your CTS of Asheville - RI/FS AOC; 6252120006 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The sample is currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the sample will be disposed of at that time. You may contact me regarding storage, disposal, or return of the sample.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2502.

Sincerely,
PTS Laboratories, Inc.

Michael Mark Brady, P.G.
Laboratory Director

Encl.

Project Name: CTS of Asheville - RI/FS AOC
 Project Number: 6252120006

PTS File No: 45184
 Client: Amec Foster Wheeler

TEST PROGRAM - 20150331

FLUID ID	Date	Time	Fluid Type	Fluid Properties Pkg.	Fluid Cleaning				Comments
			Method:	ASTM D1481, 445, 971	Proprietary				
Date Received: 20150331									
NAPL-01	20150331	1430	NAPL	X	X				
TOTALS:	1 jar			1	1				

Laboratory Test Program Notes

Standard TAT for basic analysis is 15 business days.

Fluid Properties Package - LNAPL & Water: Includes dynamic viscosity and fluid density at three temperatures (70, 100, 130°F), surface tension for each fluid, and interfacial tensions (three phase pairs; oil/water, oil/air, and water/air (at ambient laboratory temperature)).

No groundwater received, use filtered SFS tap water for interfacial tension testing.

PTS File No: 45184
 Client: Amec Foster Wheeler
 Report Date: 04/14/15

VISCOSITY, DENSITY, and SPECIFIC GRAVITY DATA
 (METHODOLOGY: ASTM D445, ASTM D1481, API RP40)

Project Name: CTS of Asheville - RI/FS AOC
 Project No: 6252120006

SAMPLE ID	MATRIX	TEMPERATURE, °F	SPECIFIC GRAVITY	DENSITY, g/cc	VISCOSITY	
					centistokes	centipoise
SFS Filtered	Water	70	1.001	0.9987	--	--
NAPL-01	NAPL	70	0.8554	0.8536	4.12	3.52
		100	0.8489	0.8430	2.72	2.30
		130	0.8430	0.8311	2.01	1.67

QUALITY CONTROL DATA

Date: 04/09/15	04/09/15
FLUID TYPE: Cannon® CVS S3	DI Water
TEMPERATURE, °F: 70	70
DENSITY, MEASURED: 0.8654	0.9981
DENSITY, PUBLISHED: 0.8655	0.9980
RPD: -0.01	0.01
VISCOSITY, MEASURED: 4.81	0.983
VISCOSITY, PUBLISHED: 4.79	0.977
RPD: 0.50	0.57
CVS Lot #: 14201	CVS = Certified Viscosity Standard

PTS File No: 45184
Client: Amec Foster Wheeler
Report Date: 04/14/15

INTERFACIAL / SURFACE TENSION DATA

(METHODOLOGY: DuNuoy Method - ASTM D971)

Project Name: CTS of Asheville - RI/FS AOC
Project No: 6252120006

PHASE PAIR		TEMPERATURE, °F	INTERFACIAL TENSION, Dynes/centimeter
SAMPLE ID / PHASE	SAMPLE ID / PHASE		
SFS Filtered	Air	76	71.3
NAPL-01	Air	76	28.0
SFS Filtered	NAPL-01	76	17.4

QUALITY CONTROL DATA

Date: 04/09/15

PHASE PAIR: DIWATER / AIR

TEMPERATURE, °F: 76

IFT, MEASURED: 71.6

IFT, PUBLISHED: 72.1

RPD: -0.70

[illegible]

APPENDIX G

REPORT OF LNAPL MOBILITY TESTING



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

February 18, 2015

Susan Kelly
AMEC
1308 Patton Ave.
Asheville, NC 28806

Re: PTS File No: 45035
Physical Properties Data
CTS of Asheville - RI/FS AOC; 6252120006

Dear Ms. Kelly:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your CTS of Asheville - RI/FS AOC; 6252120006 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2502.

Sincerely,
PTS Laboratories, Inc.

Michael Mark Brady, P.E.
Laboratory Director

Encl.

Project Name: CTS of Asheville - RI/FS AOC
Project Number: 6252120006

PTS File No: 45035
Client: AMEC

TEST PROGRAM - 20150122

CORE ID	Depth ft.	Core Recovery ft.	Free Product Mobility						Comments
		Plugs:	Vert. 1.5"						
Date Received: 20150122									
SS-36B-25	24-25	1.00	X						
SS-68B-43	42.5-43.5	0.95	X						
SS-68B-49	48-49	0.95	X						
SS-43B-32	31-32	1.00	X						
SS-43B-43	42-43	1.00	X						
SS-42B-30	29-30	1.00	X						
SS-42B-37	36-37	1.00	X						
SS-24B-27	26-27	0.95	X						
SS-47B-24	23.5-24.5	1.00	X						
SS-43C-19	18-19	1.00	X						
TOTALS:	10 cores	9.85	10						10

Laboratory Test Program Notes

Contaminant identification:

Standard TAT for basic analysis is 15 business days.

Free Product Mobility Package: Applied centrifugal force demonstrates product mobility; includes residual saturations by Dean-Stark, total porosity, grain and dry bulk density.

Samples received cryogenically preserved will be stored frozen at standard core storage rates from sample date of receipt. Core storage charges will be billed monthly or quarterly depending upon project.

PTS File No: 45035
 Client: AMEC
 Report Date: 02/18/15

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

(Centrifugal method: samples spun under air)

Project Name: CTS of Asheville - RI/FS AOC
 Project No: 6252120006

METHODS:				API RP 40		API RP 40	ASTM D425M, DEAN-STARK			
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	DENSITY		TOTAL POROSITY (2), %Vb	PORE FLUID SATURATIONS (3), % Pv			
				DRY BULK, g/cc	GRAIN, g/cc		Initial Fluid Saturations		After Centrifuge at 1000xG	
							WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
SS-36B-25	24.25	V	20150211	1.55	2.69	42.5	51.2	11.1	22.9	10.0
NOTE: Light brown LNAPL produced. Produced water cloudy.										
SS-68B-43	42.75	V	20150211	1.58	2.85	44.7	44.5	7.4	24.5	6.9
NOTE: Light brown LNAPL produced. Produced water cloudy.										
SS-68B-49	48.8	V	20150211	1.58	2.84	44.3	78.0	6.6	38.8	6.6
NOTE: No visible NAPL produced. Produced water clear with strong hydrocarbon odor.										
SS-43B-32	31.3	V	20150211	1.27	2.76	53.9	59.4	13.7	24.0	9.6
NOTE: Light brown LNAPL produced. Produced water clear.										
SS-43B-43	42.3	V	20150211	1.34	2.72	50.6	53.3	1.5	22.6	1.5
NOTE: No visible NAPL produced. Produced water clear with moderate hydrocarbon odor.										
SS-42B-30	29.75	V	20150211	1.84	2.69	31.6	67.2	15.2	38.0	15.0
NOTE: Trace NAPL produced. Produced water cloudy.										
SS-42B-37	36.7	V	20150211	1.33	2.68	50.5	68.8	1.8	21.3	1.8
NOTE: No visible NAPL produced. Produced water clear with strong hydrocarbon odor.										
SS-24B-27	26.3	V	20150211	1.21	2.77	56.5	32.8	7.2	18.7	7.2
NOTE: Trace NAPL produced. Produced water clear.										

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all interconnected pore channels.

(3) Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc, NAPL = 0.8600 g/cc.

Swi = Initial Water Saturation as received prior to centrifuging at 1000xG, Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG.

Srw = Residual Water Saturation after centrifuging at 1000xG, Sor = Residual NAPL Saturation after centrifuging at 1000xG.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS File No: 45035
 Client: AMEC
 Report Date: 02/18/15

FREE PRODUCT MOBILITY: INITIAL AND RESIDUAL SATURATIONS

(Centrifugal method: samples spun under air)

Project Name: CTS of Asheville - RI/FS AOC
 Project No: 6252120006

METHODS:				API RP 40		API RP 40	ASTM D425M, DEAN-STARK			
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	ANALYSIS DATE	DENSITY		TOTAL POROSITY (2), %Vb	PORE FLUID SATURATIONS (3), % Pv			
				DRY BULK, g/cc	GRAIN, g/cc		Initial Fluid Saturations		After Centrifuge at 1000xG	
							WATER (Swi) SATURATION	NAPL (Soi) SATURATION	WATER (Srw) SATURATION	NAPL (Sor) SATURATION
SS-47B-24	23.8	V	20150212	1.68	2.66	36.8	52.5	6.8	34.9	6.8
NOTE: No visible NAPL produced. Produced water cloudy with strong hydrocarbon odor.										
SS-43C-19	18.3	V	20150212	1.59	2.80	43.0	58.0	11.7	34.4	11.6
NOTE: Trace NAPL produced. Produced water cloudy.										

(1) Sample Orientation: H = horizontal; V = vertical; R = remold

(2) Total Porosity = all interconnected pore channels.

(3) Fluid density used to calculate pore fluid saturations: Water = 0.9996 g/cc, NAPL = 0.8600 g/cc.

Swi = Initial Water Saturation as received prior to centrifuging at 1000xG, Soi = Initial NAPL Saturation as received prior to centrifuging at 1000xG.

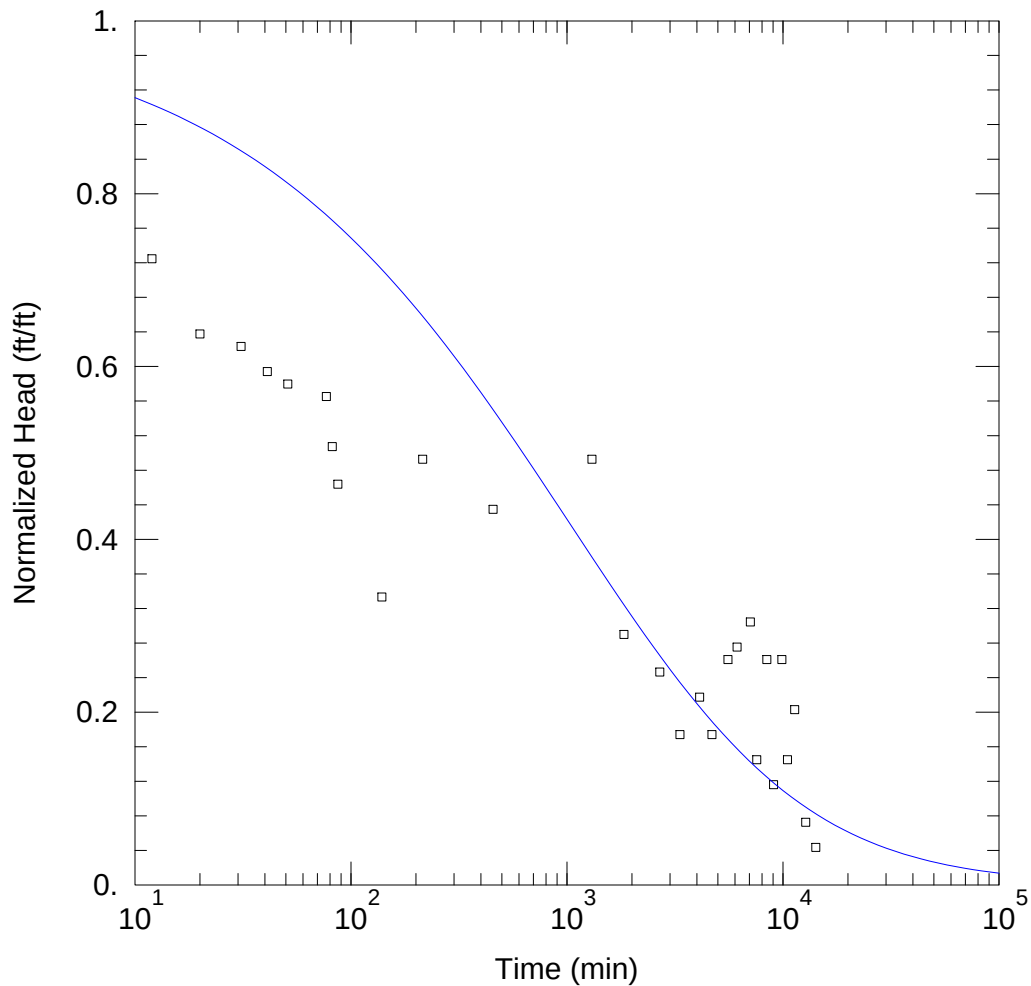
Srw = Residual Water Saturation after centrifuging at 1000xG, Sor = Residual NAPL Saturation after centrifuging at 1000xG.

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

COMPANY AMEC				ANALYSIS REQUEST																		PO# C0125044 19			
ADDRESS CITY ZIP CODE 1308 Patten Ave Asheville NC 28806				NUMBER OF SAMPLES	SOIL PROPERTIES PACKAGE	HYDRAULIC CONDUCTIVITY PACKAGE	PORE FLUID SATURATIONS PACKAGE	TOC/TN/RC PROPERTIES PACKAGE	CAPILLARITY PACKAGE	FLUID PROPERTIES PACKAGE	PHOTOLOG: CORE PHOTOGRAPHY	MOISTURE CONTENT, ASTM D2216	POROSITY: TOTAL, API RP40	POROSITY: EFFECTIVE, ASTM D425M	SPECIFIC GRAVITY, ASTM D854	BULK DENSITY (DRY), API RP40 or ASTM D2937	AIR PERMEABILITY, API RP40	HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D5084	GRAIN SIZE DISTRIBUTION, ASTM D422/4464M	TOC: WALKLEY-BLACK	ATTERBERG LIMITS, ASTM D4318	Free product mobility 5 API RP40 & ASTM D425	TURNAROUND TIME		
PROJECT MANAGER Susan Kelly																							24 HOURS ☐	5 DAYS ☐	
PROJECT NAME PHONE NUMBER CTS of Asheville 828-252-8130																							48 HOURS ☐	NORMAL ☒	
PROJECT NUMBER FAX NUMBER 6252-12-0006																							OTHER: _____		
SITE LOCATION Asheville, NC																							SAMPLE INTEGRITY (CHECK):		
SAMPLER SIGNATURE [Signature]																							INTACT ☒ ON ICE ☒		
SAMPLE ID NUMBER DATE TIME DEPTH, FT																							PTS QUOTE NO.		
																							PTS FILE:		
																							COMMENTS		
✓ SS-36B-25	1/20/15	1130	24-25																						
✓ SS-68B-43	1/20/15	1530	42.5-43.5																				X		
✓ SS-68B-49	1/20/15	1600	48-49																				X		
✓ SS-43B-32	1/21/15	9:30	31-32																				X		
✓ SS-43B-43	1/21/15	10:00	42-43																				X		
✓ SS-42B-30	1/21/15	11:30	29-30																				X		
✓ SS-42B-37	1/21/15	12:15	36-37																				X		
✓ SS-24B-27	1/21/15	15:00	26-27																				X		
✓ SS-47B-24	1/21/15	16:20	23.5-24.5																				X		
✓ SS-43C-19	1/21/15	1715	18-19																				X		
1. RELINQUISHED BY [Signature]				2. RECEIVED BY [Signature]				3. RELINQUISHED BY				4. RECEIVED BY													
COMPANY AMEC				COMPANY PTS LABS				COMPANY				COMPANY													
DATE 1/21/15 TIME 1830				DATE 1/22/15 TIME 13:00				DATE				DATE													
								TIME				TIME													

APPENDIX H

LNAPL BAILDOWN TESTING



MW-12 BAIL DOWN TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-12
 Test Date: 5-9-15

AQUIFER DATA

Saturated Thickness: 1.31 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-12)

Initial Displacement: 0.69 ft Static Water Column Height: 1.31 ft
 Total Well Penetration Depth: 29.7 ft Screen Length: 29.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft
 Gravel Pack Porosity: 0.36

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Bredehoeft-Papadopoulos
 $T = 1.806E-5$ cm²/sec $S = 0.1$

LNAPL Baildown Test

Project: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0005

Name of Person Completing Form: S. Kelly

Monitoring Well: MW-12

Date	Time	Depth to Top of LNAPL	Depth to Bottom of LNAPL	LNAPL Thickness
4/27/15	10:40	21.15	22.11	0.96
~~→ bail out LNAPL				
4/27/15	1130	21.57	21.78	0.21
	1131	21.54	21.75	0.21
	1132	21.51	21.72	0.21
	1133	21.44	21.69	0.25
	1134	21.47	21.68	0.21
	1135	21.45	21.66	0.21
	1136	21.44	21.65	0.21
	1137	21.42	21.64	0.22
	1142	21.38	21.59	0.21
	1150	21.32	21.55	0.23
	1201	21.31	21.47	0.16
	1211	21.29	21.46	0.17
	1221	21.28	21.44	0.16
	1247	21.27	21.43	0.16
	1252	21.23	21.45	0.19
	12:57	21.20	21.39	0.19
	13:49	21.11	21.31	0.20
	1505	21.22	21.40	0.18
	1905	21.18	21.36	0.18
4/28/15	915	21.22	21.47	0.25
	1808	21.08	21.30	0.22
4/29/15	821	21.05	21.28	0.23

Depths to be referenced to top of casing and measured in feet.

Thickness measurements in feet.

LNAPL Baildown Test

Project: CTS of Asheville, Inc. Superfund Site

Project Number: 6252-12-0005

Name of Person Completing Form: Skelly / R. Clark

Monitoring Well: MW-12

[illegible]

Depths to be referenced to top of casing and measured in feet.

Thickness measurements in feet.

APPENDIX I

GRAIN-SIZE ANALYSIS RESULTS

'WASH 200' WORKSHEET

Project Name CTS of Asheville
 Project Number 6252120006

Received By: _____ Date: _____

Information Collected Prior to Wash:

Sample ID	Location	Drying Pan (initial dry)	Pan Tare (grams)	Wet Wt. W/Pan (g)	Dry Wt. W/Pan (g)	* Dry Wt. (grams)	Moisture (grams)	Natural Moisture (%)
1	SB -31B 14-15	A	193.56	598.71	556.71	343.15	42.00	11.6
2	SB ~~34C~~ 43C 8-9	Y	191.95	602.46	563.97	372.02	38.19	10.3
3	SB 47- 9-10	W	192.96	706.55	630.04	437.08	76.51	17.5
4	SB 68B 27	VI	195.46	549.00	481.97	296.57	67.03	23.4

Information Collected After Wash:

Sample ID	* Dry Wt. w/out Pan (grams)	Drying Pan (Retained Mat.)	Pan Tare (grams)	Dry Wt. of Retained Mat. W/Pan (g)	Dry Wt. of Retained Material (g)	Percent Retained on No. 200 Sieve (%)	Percent Passing on No. 200 Sieve (%)

Testing performed in general accordance with ASTM D 1140

Performed By: _____ Date: _____
 Weighed By: _____ Date: _____
 Calculated By: _____ Date: _____
 Reviewed By: _____ Date: _____

Equipment Used:

Gram Scale Number _____
 Sieve Number _____
 Oven Number _____



Amec Foster Wheeler Environment & Infrastructure, Inc.

PARTICLE SIZE ANALYSIS WORKSHEET
(ASTM C 136 / ASTM D 1140)

Project Name: CTS of Asheville Lab Assignment No.: —
Project Number: 625217.0006
Sample/Boring No.: SB-31B Depth/Location: 14-15
Soil Description: —
Total Weight: — Split Weight: — Split Sieve: —

PM H

IDENTIFICATION:

Traceable Measuring and Test Equipment used for Testing:

EQUIPMENT NAME	SERIAL OR ID NUMBER
<u>Retap Rx-24</u>	<u>27688</u>

Sieve Size	Sieve ID Number	Diameter (mm)	Cum. Weight Retained	Cum. Percent Retained	Percent Passing	Specification
10	<u>SU-10-L</u>	<u>203.2</u>	<u>13.25</u>	<u>3.7</u>	<u>96.3</u>	
20	<u>S-20</u>		<u>31.33</u>	<u>8.6</u>	<u>91.4</u>	
40	<u>S-40</u>		<u>83.20</u>	<u>22.9</u>	<u>77.1</u>	
60	<u>SU-17-L</u>		<u>147.46</u>	<u>40.7</u>	<u>59.3</u>	
100	<u>S 100</u>		<u>245.38</u>	<u>67.6</u>	<u>32.4</u>	
140	<u>S 140</u>		<u>288.31</u>	<u>79.5</u>	<u>20.5</u>	
200	<u>S 200</u>		<u>315.04</u>	<u>86.9</u>	<u>13.1</u>	
<u>P20</u>			<u>362.64</u>	<u>✓</u>		

Dry Weight Before Wash (g): 363.15 Percent Finer than #200: —

Dry Weight After Wash (g): —

Tested By: JH

Date: 5-5-15

Checked By: SK

Date: 5/6/15

Amec Foster Wheeler Environment & Infrastructure, Inc.

PARTICLE SIZE ANALYSIS WORKSHEET
(ASTM C 136 / ASTM D 1140)

Project Name: OTS of Asheville Lab Assignment No.: —
 Project Number: 6252120006
 Sample/Boring No.: SB-340^{43C} Depth/Location: B-9'
 Soil Description: 8-9
 Total Weight: — Split Weight: — Split Sieve: —

PAN Y
IDENTIFICATION:

Traceable Measuring and Test Equipment used for Testing:	
EQUIPMENT NAME	SERIAL OR ID NUMBER
<u>Borop R224</u>	<u>27688</u>

Sieve Size	Sieve ID Number	Diameter (mm)	Cum. Weight Retained	Cum. Percent Retained	Percent Passing	Specification
10	SV-10-2	200.0	0.24	1.06	99.01	
20	S-20		4.13	1.1	98.9	
40	S-40		33.87	9.1	90.9	
60	SV-60-2		100.56	27.0	73.0	
100	S-100		227.68	61.2	38.8	
140	S-140		287.24	77.2	22.8	
200	S-200		322.85	86.8	13.2	
PAN			371.98	100	—	

Dry Weight Before Wash (g): 372.02 Percent Finer than #200: —
 Dry Weight After Wash (g): —

Tested By: [Signature]
 Checked By: [Signature]

Date: 5-5-15
 Date: 5/6/15

Amec Foster Wheeler Environment & Infrastructure, Inc.

PARTICLE SIZE ANALYSIS WORKSHEET
(ASTM C 136 / ASTM D 1140)

Project Name: CTS of Asheville Lab Assignment No.: -
 Project Number: 6252-12-0006
 Sample/Boring No.: SB-47 9-10 Depth/Location: -4-10'
 Soil Description: SB
 Total Weight: - Split Weight: - Split Sieve: -

PAN M
IDENTIFICATION:

Traceable Measuring and Test Equipment used for Testing:	
EQUIPMENT NAME	SERIAL OR ID NUMBER
Retrap RYZ9	27688

Sieve Size	Sieve ID Number	Diameter (mm)	Cum. Weight Retained (g)	Cum. Percent Retained	Percent Passing	Specification
10	SU-10-L	203.2	0.14	.04	94.06	
20	S-20		4.03	.92	98.08	
40	S-40		56.05	12.4	87.1	
60	SU-13-L		113.21	26.0	74.0	
100	S-100		261.66	60.0	40.0	
140	S-140		323.42	74.2	25.8	
200	S-200A		366.45	84.0	16.0	
PAN			436.12	100	—	

Dry Weight Before Wash (g): 437.08 Percent Finer than #200: -
 Dry Weight After Wash (g): -

Tested By: [Signature]
 Checked By: [Signature]

Date: 5-5-15
 Date: 5/6/15

Amec Foster Wheeler Environment & Infrastructure, Inc.

PARTICLE SIZE ANALYSIS WORKSHEET (ASTM C 136 / ASTM D 1140)

Project Name: CTS of Asheville Lab Assignment No.: -
 Project Number: 6252120006
 Sample/Boring No.: SB 65 B 27 Depth/Location: -27'
 Soil Description: -
 Total Weight: - Split Weight: - Split Sieve: -

PAN UF Sieve analysis w/o wash
 IDENTIFICATION:

Traceable Measuring and Test Equipment used for Testing:	
EQUIPMENT NAME	SERIAL OR ID NUMBER
<u>Retap Rx-29</u>	<u>27688</u>

Sieve Size	Sieve ID Number	Diameter (mm)	Cum. Weight Retained	Cum. Percent Retained	Percent Passing	Specification
10	<u>SU-10-L</u>	<u>208.2</u>	<u>6.12</u>	<u>2.1</u>	<u>97.9</u>	
20	<u>S-10</u>		<u>22.08</u>	<u>7.1</u>	<u>92.9</u>	
40	<u>S-40</u>		<u>67.17</u>	<u>23.5</u>	<u>76.5</u>	
60	<u>SU-13-L</u>		<u>118.88</u>	<u>41.6</u>	<u>58.4</u>	
100	<u>S-100</u>		<u>191.45</u>	<u>67.0</u>	<u>33.0</u>	
140	<u>S-140</u>		<u>226.47</u>	<u>74.2</u>	<u>25.8</u>	
200	<u>S-200A</u>		<u>248.80</u>	<u>87.0</u>	<u>13.0</u>	
PAN	<u>-</u>		<u>285.91</u>	<u>100</u>	<u>-</u>	

Dry Weight Before Wash (g): 286.57 Percent Finer than #200: -

Dry Weight After Wash (g): -

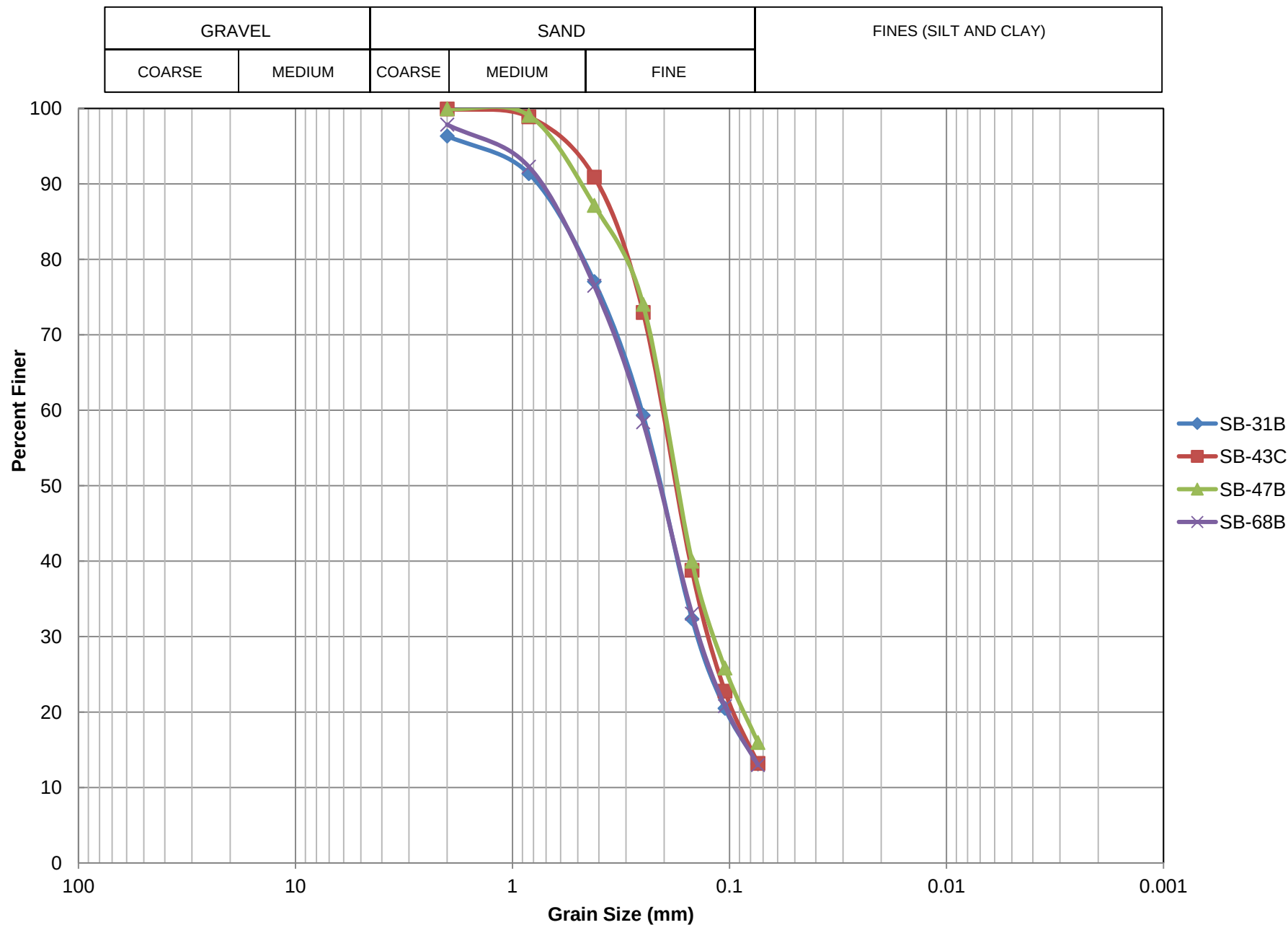
Tested By: [Signature]

Date: 5-5-15

Checked By: [Signature]

Date: 5/6/15

Plot of Grain Size Analysis Test Results
CTS of Asheville, Inc. Superfund Site
Asheville, North Carolina
Amec Foster Wheeler Project 6252-12-0006



APPENDIX J

HYDRAULIC CONDUCTIVITY TEST DATA

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-2 Falling Head BR.aqt
 Title: MW-2 Falling Head Test
 Date: 04/22/15
 Time: 14:31:56

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-2

AQUIFER DATA

Saturated Thickness: 13. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 5.472 ft
 Static Water Column Height: 12.56 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.7 ft
 Total Well Penetration Depth: 12.56 ft

No. of Observations: 96

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	5.472	127.7	2.117
0.42	4.548	135.5	2.067
0.84	4.871	143.9	2.025
1.26	4.902	152.9	1.98
2.28	3.128	162.5	1.927
2.76	3.358	172.1	1.876
3.36	3.03	182.9	1.825
5.22	2.995	194.3	1.773
6.72	2.98	206.3	1.716
7.5	2.975	218.9	1.654
8.34	2.963	232.1	1.593
9.24	2.833	246.5	1.534
10.2	3.021	261.5	1.474
11.16	2.929	277.1	1.414
12.24	2.923	293.9	1.347
13.38	2.914	311.9	1.279
14.58	2.898	330.5	1.218
15.84	2.891	350.9	1.152
17.16	2.876	371.9	1.086
18.6	2.859	394.1	1.016
20.1	2.85	418.1	0.948
21.66	2.832	443.3	0.883
23.34	2.821	469.7	0.818
25.14	2.805	497.9	0.756
27.	2.786	527.9	0.692
29.04	2.767	559.7	0.636
31.14	2.755	593.3	0.581
33.36	2.739	629.3	0.529
35.76	2.715	665.3	0.476

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
38.28	2.696	707.3	0.425
40.92	2.672	749.3	0.381
43.74	2.65	791.3	0.339
46.74	2.629	839.3	0.3
49.92	2.605	893.3	0.263
53.28	2.584	941.3	0.233
56.88	2.557	1001.3	0.203
60.48	2.534	1061.3	0.176
64.68	2.512	1121.3	0.162
68.88	2.474	1187.3	0.14
73.08	2.45	1259.3	0.119
77.88	2.414	1337.3	0.079
83.28	2.384	1415.3	0.057
88.08	2.355	1499.3	0.039
94.08	2.317	1589.3	0.037
100.1	2.281	1685.3	0.021
106.1	2.243	1781.3	0.019
112.7	2.199	1889.3	0.015
119.9	2.159	2003.3	0.014

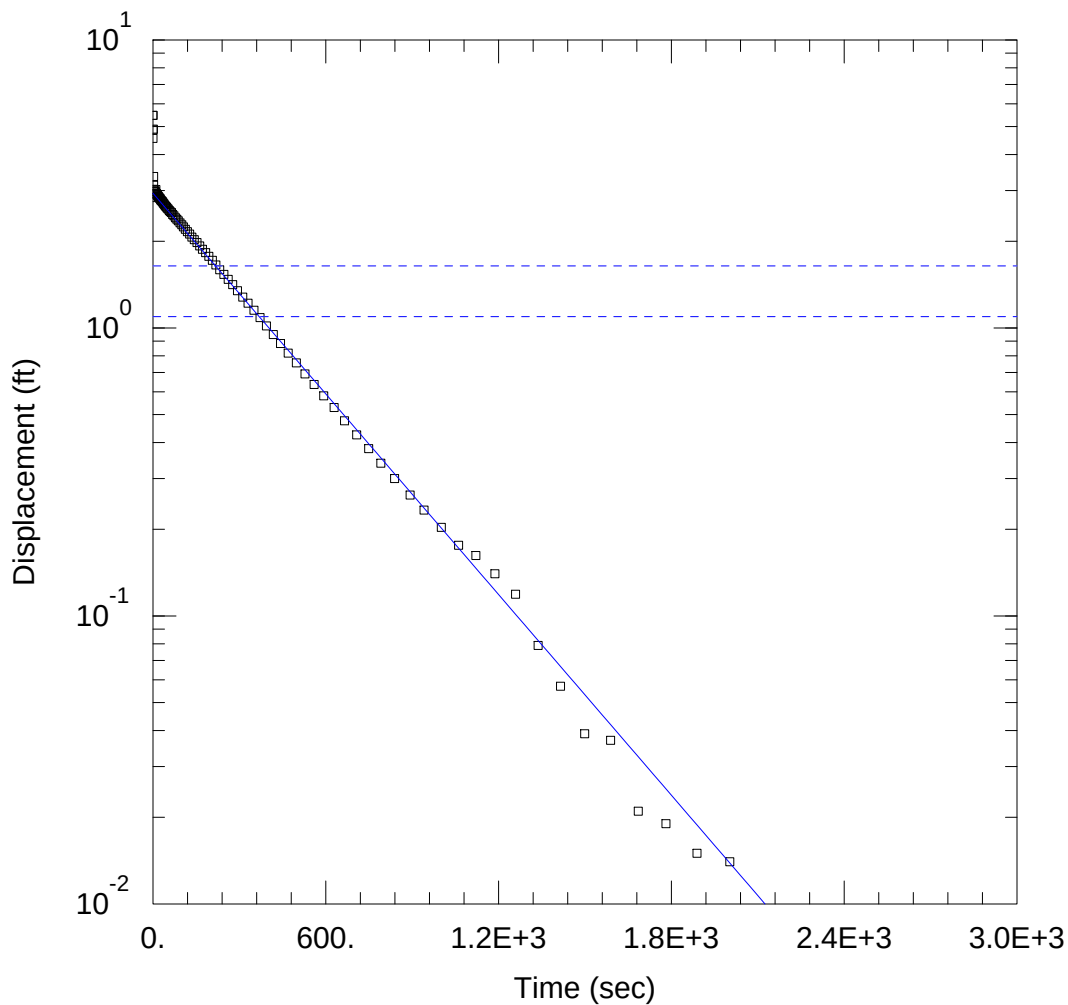
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 $\ln(R_e/r_w)$: 2.798

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	7.634E-5	cm/sec
y0	2.934	ft

$$T = K \cdot b = 0.03025 \text{ cm}^2/\text{sec}$$



MW-2 FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-2
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 13. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-2)

Initial Displacement: 5.472 ft Static Water Column Height: 12.56 ft
 Total Well Penetration Depth: 12.56 ft Screen Length: 9.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 7.634E-5$ cm/sec $y_0 = 2.934$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-2 Falling Head HS.aqt
 Title: MW-2 Falling Head Test
 Date: 04/22/15
 Time: 14:32:30

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-2

AQUIFER DATA

Saturated Thickness: 13. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 5.472 ft
 Static Water Column Height: 12.56 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.7 ft
 Total Well Penetration Depth: 12.56 ft

No. of Observations: 100

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	5.472	112.7	2.199
0.42	4.548	119.9	2.159
0.84	4.871	127.7	2.117
1.26	4.902	135.5	2.067
1.74	1.923	143.9	2.025
2.28	3.128	152.9	1.98
2.76	3.358	162.5	1.927
3.36	3.03	172.1	1.876
3.96	3.675	182.9	1.825
4.56	1.762	194.3	1.773
5.22	2.995	206.3	1.716
5.94	2.825	218.9	1.654
6.72	2.98	232.1	1.593
7.5	2.975	246.5	1.534
8.34	2.963	261.5	1.474
9.24	2.833	277.1	1.414
10.2	3.021	293.9	1.347
11.16	2.929	311.9	1.279
12.24	2.923	330.5	1.218
13.38	2.914	350.9	1.152
14.58	2.898	371.9	1.086
15.84	2.891	394.1	1.016
17.16	2.876	418.1	0.948
18.6	2.859	443.3	0.883
20.1	2.85	469.7	0.818
21.66	2.832	497.9	0.756
23.34	2.821	527.9	0.692
25.14	2.805	559.7	0.636
27.	2.786	593.3	0.581

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
29.04	2.767	629.3	0.529
31.14	2.755	665.3	0.476
33.36	2.739	707.3	0.425
35.76	2.715	749.3	0.381
38.28	2.696	791.3	0.339
40.92	2.672	839.3	0.3
43.74	2.65	893.3	0.263
46.74	2.629	941.3	0.233
49.92	2.605	1001.3	0.203
53.28	2.584	1061.3	0.176
56.88	2.557	1121.3	0.162
60.48	2.534	1187.3	0.14
64.68	2.512	1259.3	0.119
68.88	2.474	1337.3	0.079
73.08	2.45	1415.3	0.057
77.88	2.414	1499.3	0.039
83.28	2.384	1589.3	0.037
88.08	2.355	1685.3	0.021
94.08	2.317	1781.3	0.019
100.1	2.281	1889.3	0.015
106.1	2.243	2003.3	0.014

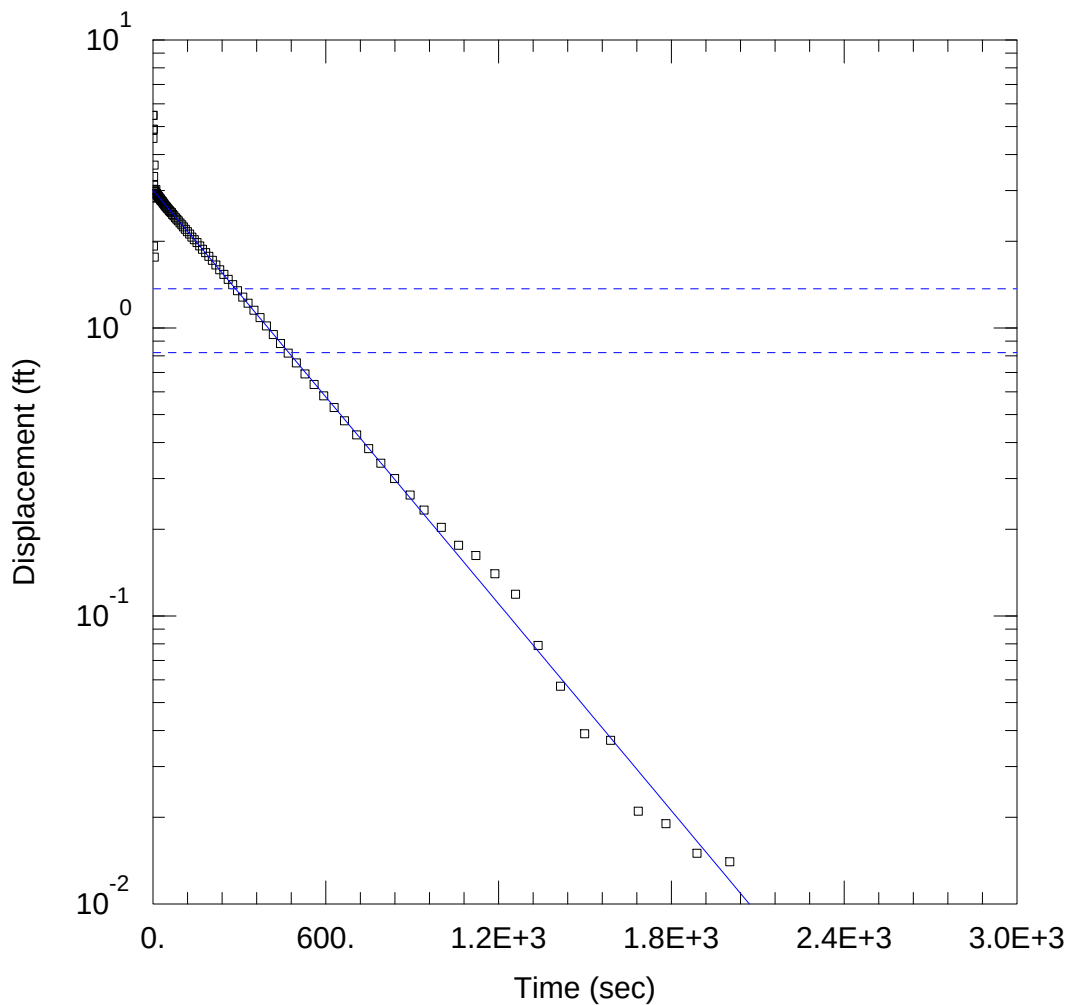
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.2733

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
K	0.0001029	cm/sec
y0	3.011	ft

$$T = K \cdot b = 0.04079 \text{ cm}^2/\text{sec}$$



MW-2 FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-2
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 13. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-2)

Initial Displacement: 5.472 ft Static Water Column Height: 12.56 ft
 Total Well Penetration Depth: 12.56 ft Screen Length: 9.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 0.0001029$ cm/sec $y_0 = 3.011$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-2 Rising Head BR.aqt
 Title: MW-2 Rising Head Test
 Date: 04/22/15
 Time: 14:33:07

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-2

AQUIFER DATA

Saturated Thickness: 13. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.976 ft
 Static Water Column Height: 12.56 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.7 ft
 Total Well Penetration Depth: 12.56 ft

No. of Observations: 68

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
21.3	5.926	150.6	1.805
22.56	4.143	159.6	1.745
23.88	4.061	169.2	1.692
25.32	4.007	178.8	1.638
26.82	3.586	189.6	1.577
28.38	2.878	201.	1.513
30.06	2.846	213.	1.454
31.86	2.822	225.6	1.392
33.72	2.803	238.8	1.325
35.76	2.779	253.2	1.257
37.86	2.751	268.2	1.196
40.08	2.721	283.8	1.131
42.48	2.699	300.6	1.062
45.	2.673	318.6	1.003
47.64	2.647	337.2	0.937
50.46	2.617	357.6	0.864
53.46	2.582	378.6	0.806
56.64	2.554	400.8	0.742
60.	2.528	424.8	0.676
63.6	2.493	450.	0.611
67.2	2.464	476.4	0.538
71.4	2.433	504.6	0.478
75.6	2.395	534.6	0.407
79.8	2.356	566.4	0.36
84.6	2.314	600.	0.313
90.	2.267	636.	0.26
94.8	2.222	672.	0.223
100.8	2.172	714.	0.191
106.8	2.122	756.	0.155

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
112.8	2.065	798.	0.128
119.4	2.019	846.	0.101
126.6	1.97	900.	0.067
134.4	1.911	948.	0.037
142.2	1.861	1008.	0.004

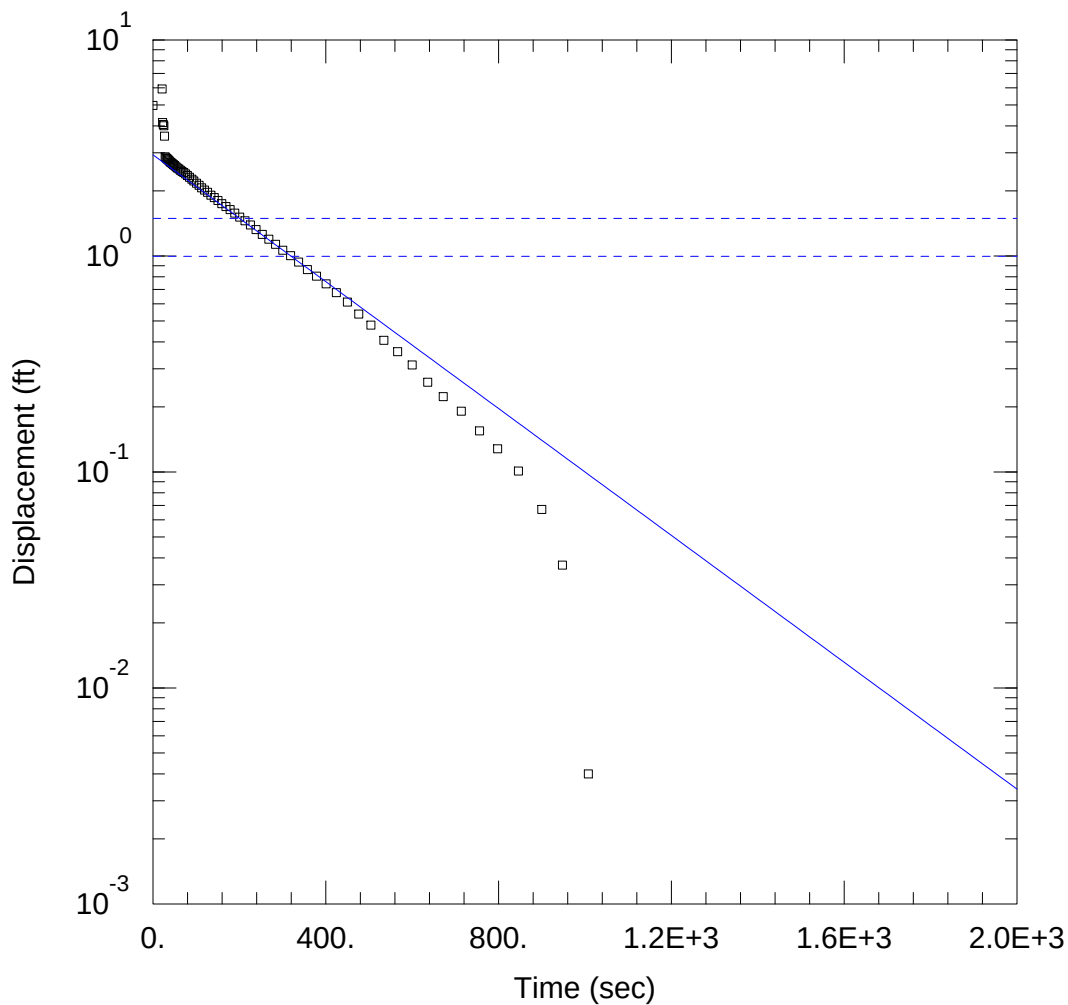
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 2.798

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	9.654E-5	cm/sec
y0	2.938	ft

$$T = K \cdot b = 0.03825 \text{ cm}^2/\text{sec}$$



MW-2 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-2
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 13. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-2)

Initial Displacement: 4.976 ft Static Water Column Height: 12.56 ft
 Total Well Penetration Depth: 12.56 ft Screen Length: 9.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 9.654E-5$ cm/sec $y_0 = 2.938$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-2 Rising Head HS.aqt
 Title: MW-2 Rising Head Test
 Date: 04/22/15
 Time: 14:33:37

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-2

AQUIFER DATA

Saturated Thickness: 13. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-2

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.976 ft
 Static Water Column Height: 12.56 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.7 ft
 Total Well Penetration Depth: 12.56 ft

No. of Observations: 68

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
21.3	5.926	150.6	1.805
22.56	4.143	159.6	1.745
23.88	4.061	169.2	1.692
25.32	4.007	178.8	1.638
26.82	3.586	189.6	1.577
28.38	2.878	201.	1.513
30.06	2.846	213.	1.454
31.86	2.822	225.6	1.392
33.72	2.803	238.8	1.325
35.76	2.779	253.2	1.257
37.86	2.751	268.2	1.196
40.08	2.721	283.8	1.131
42.48	2.699	300.6	1.062
45.	2.673	318.6	1.003
47.64	2.647	337.2	0.937
50.46	2.617	357.6	0.864
53.46	2.582	378.6	0.806
56.64	2.554	400.8	0.742
60.	2.528	424.8	0.676
63.6	2.493	450.	0.611
67.2	2.464	476.4	0.538
71.4	2.433	504.6	0.478
75.6	2.395	534.6	0.407
79.8	2.356	566.4	0.36
84.6	2.314	600.	0.313
90.	2.267	636.	0.26
94.8	2.222	672.	0.223
100.8	2.172	714.	0.191
106.8	2.122	756.	0.155

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
112.8	2.065	798.	0.128
119.4	2.019	846.	0.101
126.6	1.97	900.	0.067
134.4	1.911	948.	0.037
142.2	1.861	1008.	0.004

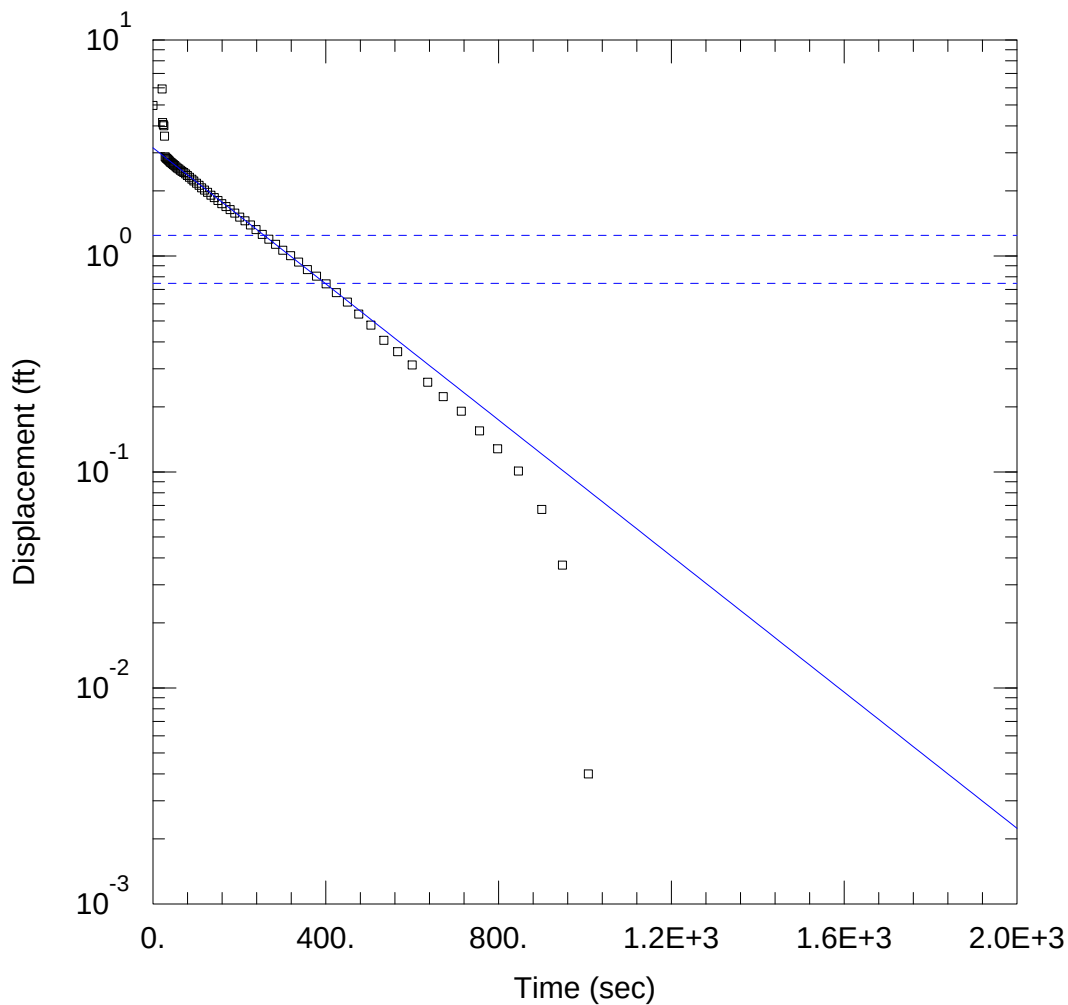
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.2733

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.0001355	cm/sec
y0	3.167	ft

$$T = K \cdot b = 0.05367 \text{ cm}^2/\text{sec}$$



MW-2 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-2
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 13. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-2)

Initial Displacement: 4.976 ft Static Water Column Height: 12.56 ft
 Total Well Penetration Depth: 12.56 ft Screen Length: 9.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 0.0001355$ cm/sec $y_0 = 3.167$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-5A Falling Head BR.aqt
 Title: MW-5A Falling Head Test
 Date: 04/22/15
 Time: 14:34:13

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-5A

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-5A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 3.978 ft
 Static Water Column Height: 54.21 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 54.21 ft

No. of Observations: 101

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
2.28	3.978	256.3	2.145
3.12	3.447	271.9	2.089
4.02	3.445	288.7	2.028
4.98	3.436	306.7	1.968
5.94	3.426	325.3	1.912
7.02	3.391	345.7	1.848
8.16	3.409	366.7	1.794
9.36	3.396	388.9	1.741
10.62	3.387	412.9	1.683
11.94	3.375	438.1	1.624
13.38	3.362	464.5	1.555
14.88	3.356	492.7	1.493
16.44	3.337	522.7	1.421
18.12	3.321	554.5	1.35
19.92	3.309	588.1	1.298
21.78	3.291	624.1	1.271
23.82	3.286	660.1	1.251
25.92	3.268	702.1	1.203
28.14	3.251	744.1	1.128
30.54	3.231	786.1	1.033
33.06	3.216	834.1	0.939
35.7	3.202	888.1	0.853
38.52	3.182	936.1	0.786
41.52	3.158	996.1	0.73
44.7	3.143	1056.1	0.672
48.06	3.126	1116.1	0.595
51.66	3.1	1182.1	0.512
55.26	3.082	1254.1	0.466
59.46	3.061	1332.1	0.441

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
63.66	3.035	1410.1	0.386
67.86	3.014	1494.1	0.326
72.66	2.985	1584.1	0.306
78.06	2.955	1680.1	0.302
82.86	2.928	1776.1	0.257
88.86	2.898	1884.1	0.199
94.86	2.866	1998.1	0.151
100.9	2.835	2118.1	0.2
107.5	2.798	2244.1	0.125
114.7	2.755	2376.1	0.127
122.5	2.714	2520.1	0.151
130.3	2.679	2670.1	0.102
138.7	2.631	2826.1	0.06
147.7	2.59	2994.1	0.105
157.3	2.549	3174.1	0.128
166.9	2.504	3360.1	0.103
177.7	2.465	3564.1	0.057
189.1	2.408	3774.1	0.079
201.1	2.362	3996.1	-0.001
213.7	2.315	4236.1	-0.013
226.9	2.257	4488.1	0.102
241.3	2.198		

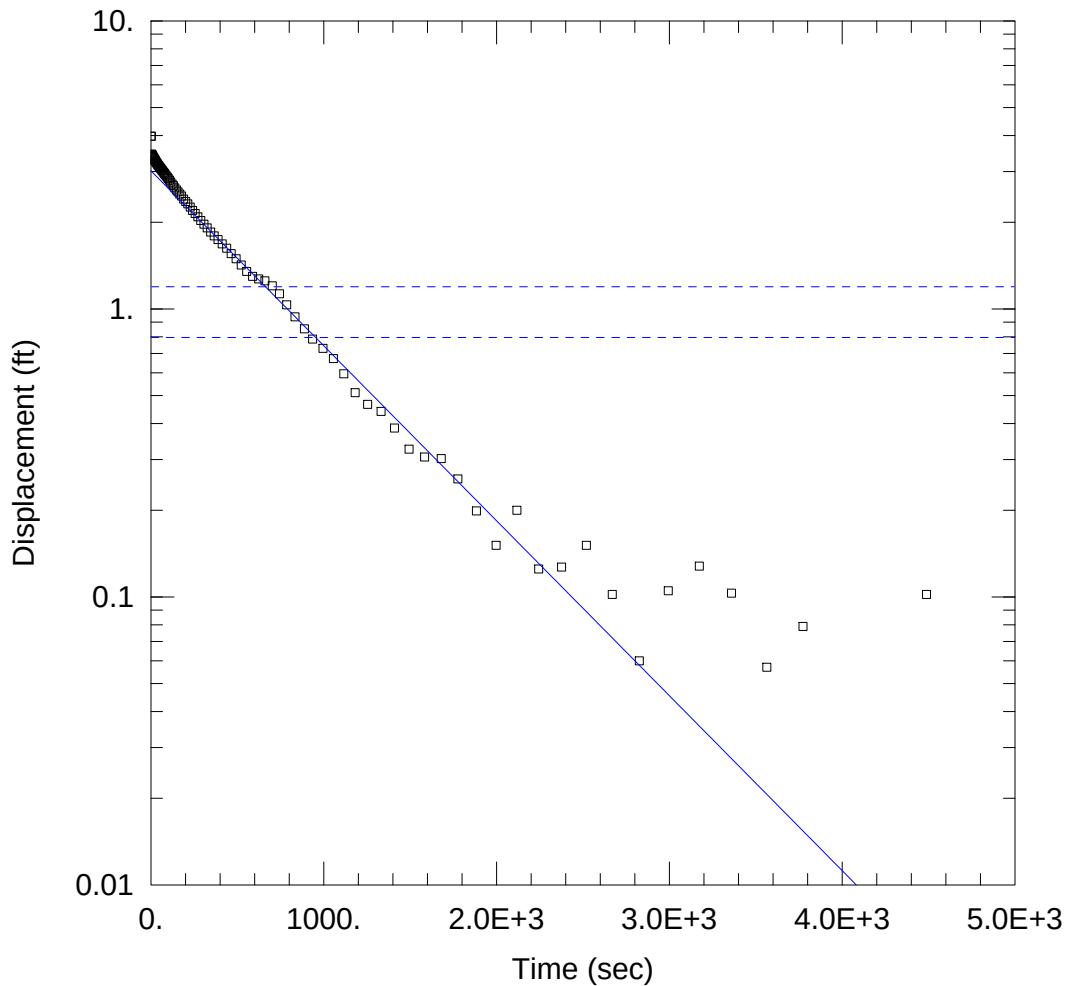
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 $\ln(R_e/r_w)$: 2.983

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	8.605E-5	cm/sec
y0	3.015	ft

$$T = K \cdot b = 0.1443 \text{ cm}^2/\text{sec}$$



MW-5A FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-5A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-5A)

Initial Displacement: 3.978 ft Static Water Column Height: 54.21 ft
 Total Well Penetration Depth: 54.21 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 8.605E-5$ cm/sec $y_0 = 3.015$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-5A Falling Head HS.aqt
 Title: MW-5A Falling Head Test
 Date: 04/22/15
 Time: 14:34:42

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-5A

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-5A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 3.362 ft
 Static Water Column Height: 54.21 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 54.21 ft

No. of Observations: 99

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.362	225.4	2.257
0.78	3.978	239.8	2.198
1.62	3.447	254.8	2.145
2.52	3.445	270.4	2.089
3.48	3.436	287.2	2.028
4.44	3.426	305.2	1.968
5.52	3.391	323.8	1.912
6.66	3.409	344.2	1.848
7.86	3.396	365.2	1.794
9.12	3.387	387.4	1.741
10.44	3.375	411.4	1.683
11.88	3.362	436.6	1.624
13.38	3.356	463.	1.555
14.94	3.337	491.2	1.493
16.62	3.321	521.2	1.421
18.42	3.309	553.	1.35
20.28	3.291	586.6	1.298
22.32	3.286	622.6	1.271
24.42	3.268	658.6	1.251
26.64	3.251	700.6	1.203
29.04	3.231	742.6	1.128
31.56	3.216	784.6	1.033
34.2	3.202	832.6	0.939
37.02	3.182	886.6	0.853
40.02	3.158	934.6	0.786
43.2	3.143	994.6	0.73
46.56	3.126	1054.6	0.672
50.16	3.1	1114.6	0.595
53.76	3.082	1180.6	0.512

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
57.96	3.061	1252.6	0.466
62.16	3.035	1330.6	0.441
66.36	3.014	1408.6	0.386
71.16	2.985	1492.6	0.326
76.56	2.955	1582.6	0.306
81.36	2.928	1678.6	0.302
87.36	2.898	1774.6	0.257
93.36	2.866	1882.6	0.199
99.36	2.835	1996.6	0.151
106.	2.798	2116.6	0.2
113.2	2.755	2242.6	0.125
121.	2.714	2374.6	0.127
128.8	2.679	2518.6	0.151
137.2	2.631	2668.6	0.102
146.2	2.59	2824.6	0.06
155.8	2.549	2992.6	0.105
165.4	2.504	3172.6	0.128
176.2	2.465	3358.6	0.103
187.6	2.408	3562.6	0.057
199.6	2.362	3772.6	0.079
212.2	2.315		

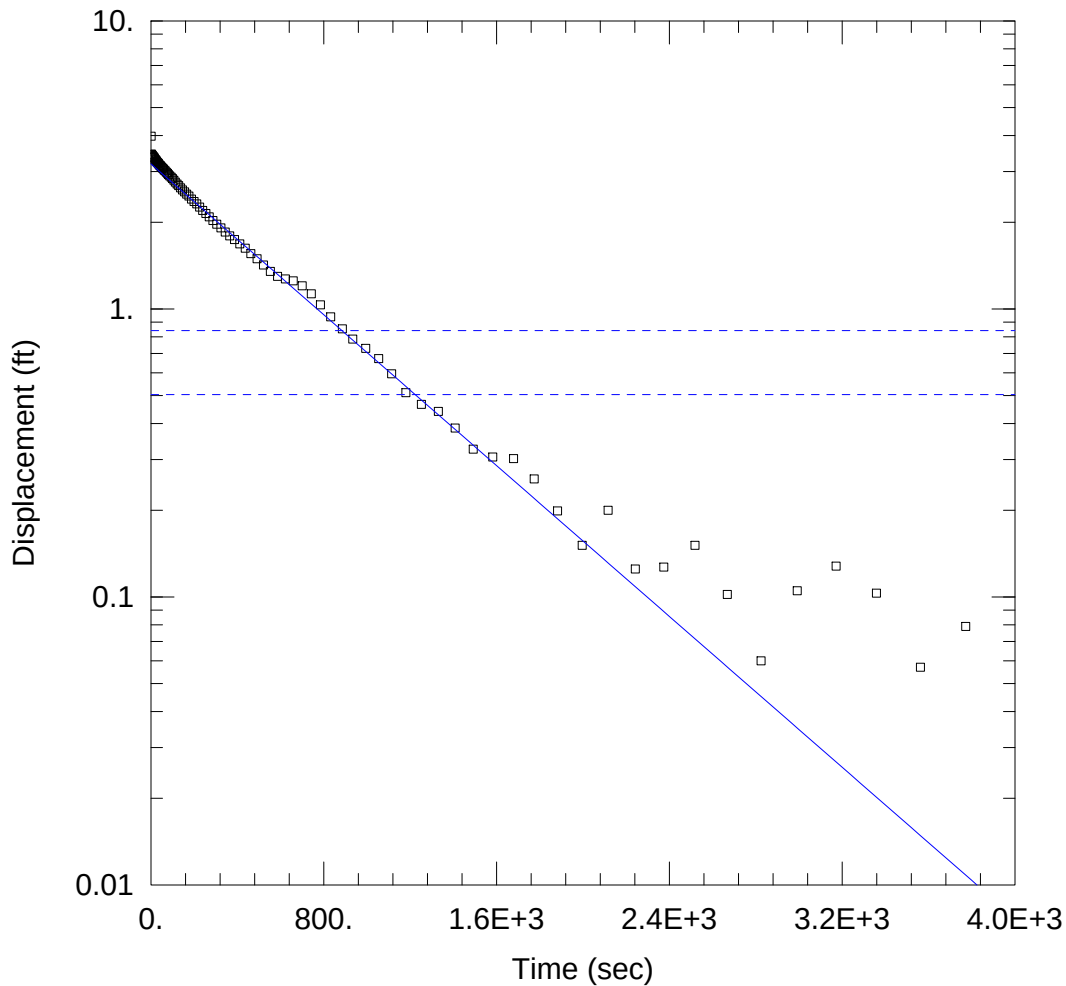
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.3381

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
K	9.195E-5	cm/sec
y0	3.187	ft

$$T = K \cdot b = 0.1541 \text{ cm}^2/\text{sec}$$



MW-5A FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-5A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-5A)

Initial Displacement: 3.362 ft Static Water Column Height: 54.21 ft
 Total Well Penetration Depth: 54.21 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 9.195E-5$ cm/sec $y_0 = 3.187$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-5A Rising Head BR.aqt
 Title: MW-5A Rising Head Test
 Date: 04/22/15
 Time: 14:35:18

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-5A

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-5A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 3.824 ft
 Static Water Column Height: 54.21 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 54.21 ft

No. of Observations: 83

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.824	183.1	2.792
1.08	3.731	195.1	2.758
2.22	3.739	207.7	2.719
3.42	3.673	220.9	2.685
4.68	3.662	235.3	2.647
6.	3.643	250.3	2.605
7.44	3.632	265.9	2.558
8.94	3.608	282.7	2.5
10.5	3.596	300.7	2.449
12.18	3.58	319.3	2.385
13.98	3.561	339.7	2.336
15.84	3.549	360.7	2.275
17.88	3.535	382.9	2.222
19.98	3.509	406.9	2.163
22.2	3.492	432.1	2.101
24.6	3.48	458.5	2.032
27.12	3.472	486.7	1.965
29.76	3.45	516.7	1.898
32.58	3.426	548.5	1.822
35.58	3.412	582.1	1.743
38.76	3.394	618.1	1.677
42.12	3.376	654.1	1.625
45.72	3.36	696.1	1.576
49.32	3.333	738.1	1.514
53.52	3.312	780.1	1.446
57.72	3.292	828.1	1.367
61.92	3.265	882.1	1.282
66.72	3.239	930.1	1.224
72.12	3.217	990.1	1.133

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
76.92	3.191	1050.1	1.055
82.92	3.161	1110.1	0.992
88.92	3.131	1176.1	0.933
94.92	3.104	1248.1	0.86
101.5	3.084	1326.1	0.785
108.7	3.055	1404.1	0.719
116.5	3.024	1488.1	0.67
124.3	2.991	1578.1	0.636
132.7	2.954	1674.1	0.59
141.7	2.922	1770.1	0.545
151.3	2.892	1878.1	0.492
160.9	2.859	1992.1	0.45
171.7	2.826		

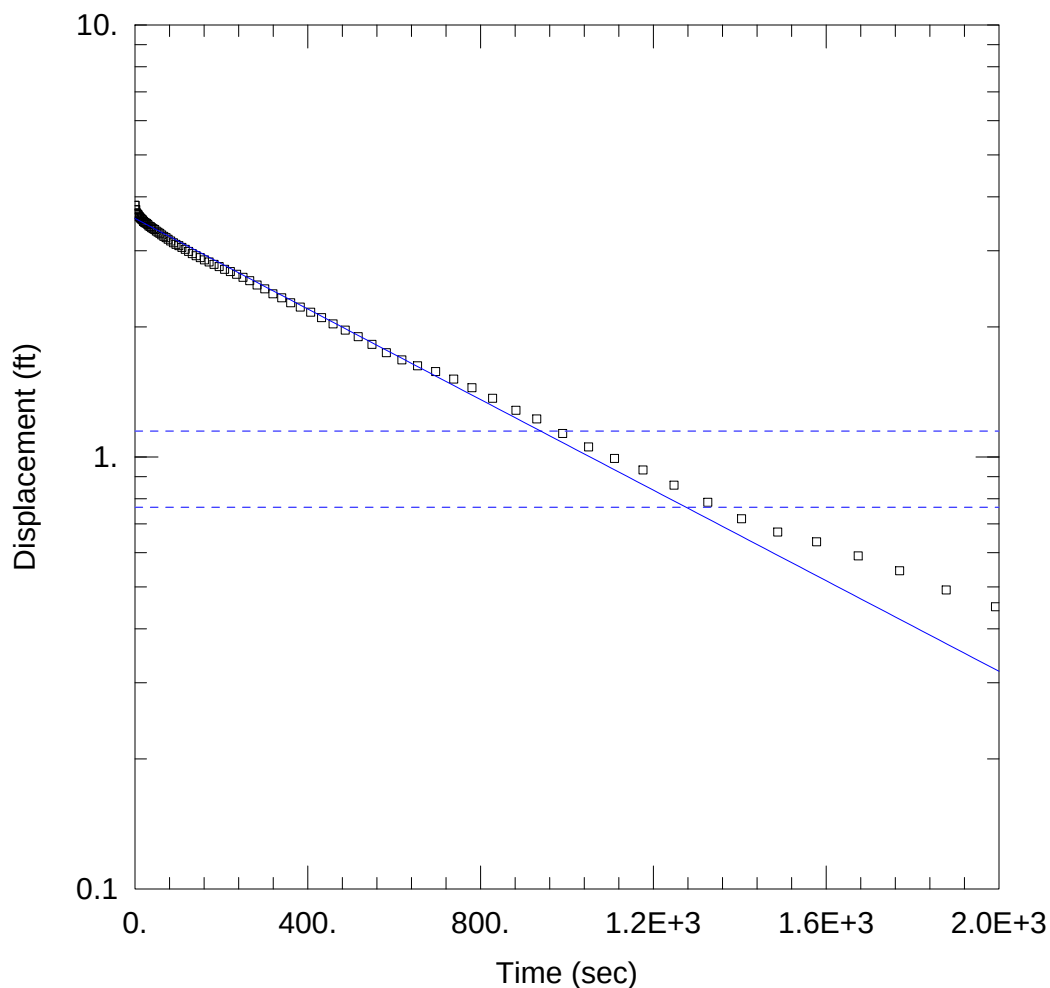
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 $\ln(R_e/r_w)$: 2.983

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	7.426E-5	cm/sec
y0	3.565	ft

$$T = K \cdot b = 0.1245 \text{ cm}^2/\text{sec}$$



MW-5A RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-5A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-5A)

Initial Displacement: 3.824 ft Static Water Column Height: 54.21 ft
 Total Well Penetration Depth: 54.21 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 7.426E-5$ cm/sec $y_0 = 3.565$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-5A Rising Head HS.aqt
 Title: MW-5A Rising Head Test
 Date: 05/14/15
 Time: 13:53:52

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-5A

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-5A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 3.824 ft
 Static Water Column Height: 54.21 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 54.21 ft

No. of Observations: 83

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.824	183.1	2.792
1.08	3.731	195.1	2.758
2.22	3.739	207.7	2.719
3.42	3.673	220.9	2.685
4.68	3.662	235.3	2.647
6.	3.643	250.3	2.605
7.44	3.632	265.9	2.558
8.94	3.608	282.7	2.5
10.5	3.596	300.7	2.449
12.18	3.58	319.3	2.385
13.98	3.561	339.7	2.336
15.84	3.549	360.7	2.275
17.88	3.535	382.9	2.222
19.98	3.509	406.9	2.163
22.2	3.492	432.1	2.101
24.6	3.48	458.5	2.032
27.12	3.472	486.7	1.965
29.76	3.45	516.7	1.898
32.58	3.426	548.5	1.822
35.58	3.412	582.1	1.743
38.76	3.394	618.1	1.677
42.12	3.376	654.1	1.625
45.72	3.36	696.1	1.576
49.32	3.333	738.1	1.514
53.52	3.312	780.1	1.446
57.72	3.292	828.1	1.367
61.92	3.265	882.1	1.282
66.72	3.239	930.1	1.224
72.12	3.217	990.1	1.133

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
76.92	3.191	1050.1	1.055
82.92	3.161	1110.1	0.992
88.92	3.131	1176.1	0.933
94.92	3.104	1248.1	0.86
101.5	3.084	1326.1	0.785
108.7	3.055	1404.1	0.719
116.5	3.024	1488.1	0.67
124.3	2.991	1578.1	0.636
132.7	2.954	1674.1	0.59
141.7	2.922	1770.1	0.545
151.3	2.892	1878.1	0.492
160.9	2.859	1992.1	0.45
171.7	2.826		

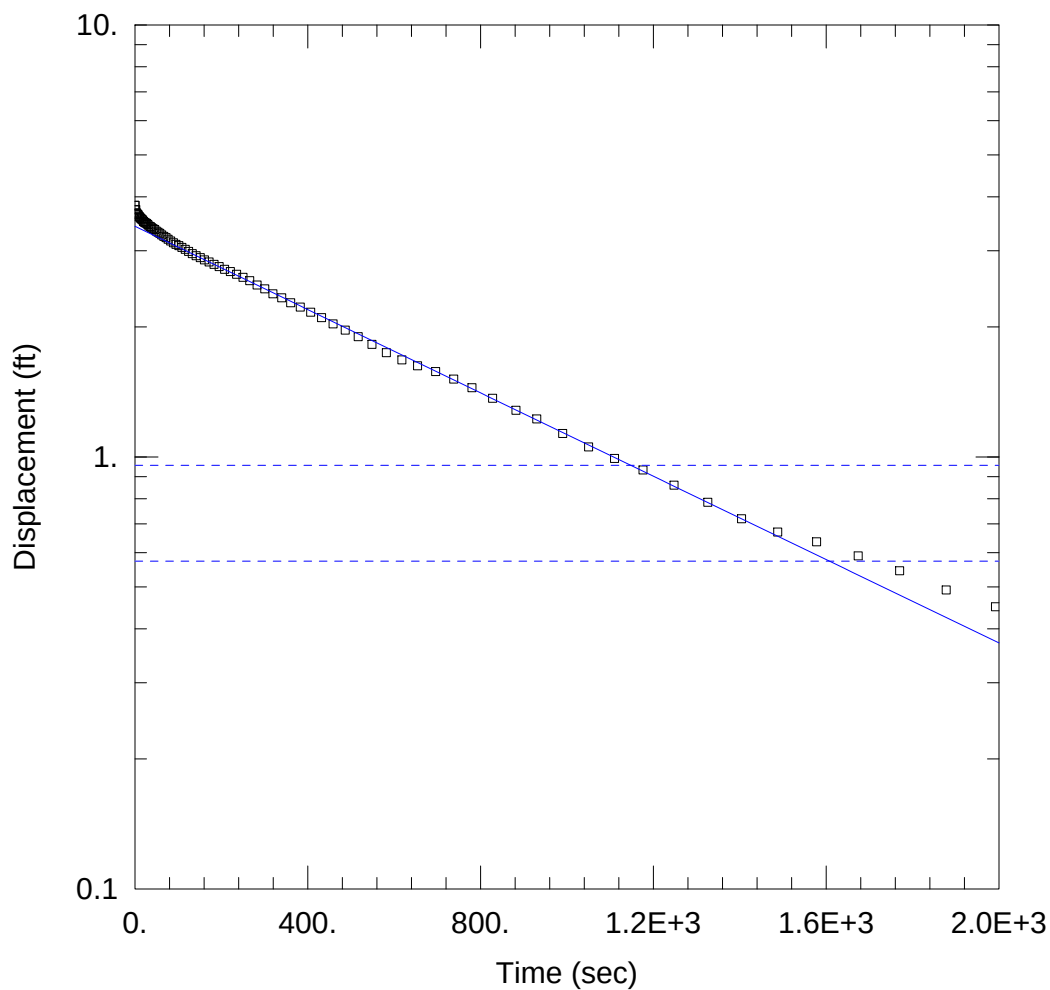
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.3381

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	6.775E-5	cm/sec
y0	3.42	ft

$$T = K \cdot b = 0.1136 \text{ cm}^2/\text{sec}$$



MW-5A RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-5A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-5A)

Initial Displacement: 3.824 ft Static Water Column Height: 54.21 ft
 Total Well Penetration Depth: 54.21 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 6.775E-5$ cm/sec $y_0 = 3.42$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-6A Falling Head BR.aqt
 Title: MW-6A Falling Head Test
 Date: 04/22/15
 Time: 14:36:44

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-6A

AQUIFER DATA

Saturated Thickness: 48. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-6A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 5.347 ft
 Static Water Column Height: 47.17 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 47.17 ft

No. of Observations: 203

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	5.347	3775.3	1.818
0.599	4.346	3997.3	1.755
1.259	3.372	4237.3	1.698
1.979	3.893	4489.3	1.627
2.759	3.938	4753.3	1.563
3.539	3.898	5035.3	1.5
4.379	3.896	5335.3	1.452
5.279	3.895	5653.3	1.403
6.239	3.896	5989.3	1.339
7.199	3.892	6349.3	1.3
8.279	3.89	6709.3	1.267
9.42	3.889	7129.3	1.214
10.62	3.891	7549.3	1.171
11.88	3.885	7969.3	1.139
13.2	3.884	8449.3	1.098
14.64	3.88	8989.3	1.066
16.14	3.875	9469.3	1.035
17.7	3.873	1.007E+4	1.007
19.38	3.865	1.067E+4	0.983
21.18	3.866	1.127E+4	0.967
23.04	3.869	1.187E+4	0.947
25.08	3.863	1.247E+4	0.936
27.18	3.861	1.307E+4	0.926
29.4	3.517	1.367E+4	0.914
31.8	3.832	1.427E+4	0.901
34.32	3.832	1.487E+4	0.896
36.96	3.556	1.547E+4	0.889
39.78	3.828	1.607E+4	0.882
42.78	3.821	1.667E+4	0.887

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
45.96	3.819	1.727E+4	0.879
49.32	3.811	1.787E+4	0.871
52.92	3.807	1.847E+4	0.874
56.52	3.799	1.907E+4	0.871
60.72	3.803	1.967E+4	0.865
64.92	3.797	2.027E+4	0.862
69.12	3.789	2.087E+4	0.866
73.92	3.79	2.147E+4	0.865
79.32	3.778	2.207E+4	0.861
84.12	3.778	2.267E+4	0.86
90.12	3.773	2.327E+4	0.856
96.12	3.772	2.387E+4	0.857
102.1	3.761	2.447E+4	0.857
108.7	3.758	2.507E+4	0.861
115.9	3.752	2.567E+4	0.863
123.7	3.751	2.627E+4	0.856
131.5	3.738	2.687E+4	0.86
139.9	3.736	2.747E+4	0.861
148.9	3.723	2.807E+4	0.857
158.5	3.714	2.867E+4	0.855
168.1	3.704	2.927E+4	0.856
178.9	3.702	2.987E+4	0.861
190.3	3.685	3.047E+4	0.863
202.3	3.675	3.107E+4	0.858
214.9	3.664	3.167E+4	0.862
228.1	3.656	3.227E+4	0.86
242.5	3.639	3.287E+4	0.859
257.5	3.626	3.347E+4	0.857
273.1	3.611	3.407E+4	0.861
289.9	3.598	3.467E+4	0.858
307.9	3.58	3.527E+4	0.858
326.5	3.567	3.587E+4	0.855
346.9	3.55	3.647E+4	0.855
367.9	3.533	3.707E+4	0.858
390.1	3.512	3.767E+4	0.857
414.1	3.494	3.827E+4	0.86
439.3	3.475	3.887E+4	0.863
465.7	3.452	3.947E+4	0.864
493.9	3.428	4.007E+4	0.87
523.9	3.412	4.067E+4	0.874
555.7	3.384	4.127E+4	0.873
589.3	3.36	4.187E+4	0.873
625.3	3.331	4.247E+4	0.879
661.3	3.306	4.307E+4	0.88
703.3	3.273	4.367E+4	0.88
745.3	3.237	4.427E+4	0.882
787.3	3.203	4.487E+4	0.881
835.3	3.172	4.547E+4	0.888
889.3	3.131	4.607E+4	0.881
937.3	3.094	4.667E+4	0.886
997.3	3.048	4.727E+4	0.895
1057.3	3.012	4.787E+4	0.889
1117.3	2.97	4.847E+4	0.889
1183.3	2.929	4.907E+4	0.886
1255.3	2.884	4.967E+4	0.888
1333.3	2.843	5.027E+4	0.897
1411.3	2.791	5.087E+4	0.893
1495.3	2.735	5.147E+4	0.896
1585.3	2.691	5.207E+4	0.893
1681.3	2.651	5.267E+4	0.89
1777.3	2.584	5.327E+4	0.891
1885.3	2.538	5.387E+4	0.892
1999.3	2.485	5.447E+4	0.888
2119.3	2.421	5.507E+4	0.879
2245.3	2.348	5.567E+4	0.883
2377.3	2.268	5.627E+4	0.876

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
2521.3	2.196	5.687E+4	0.875
2671.3	2.143	5.747E+4	0.877
2827.3	2.082	5.807E+4	0.872
2995.3	2.031	5.867E+4	0.873
3175.3	1.974	5.927E+4	0.864
3361.3	1.933	5.987E+4	0.855
3565.3	1.886		

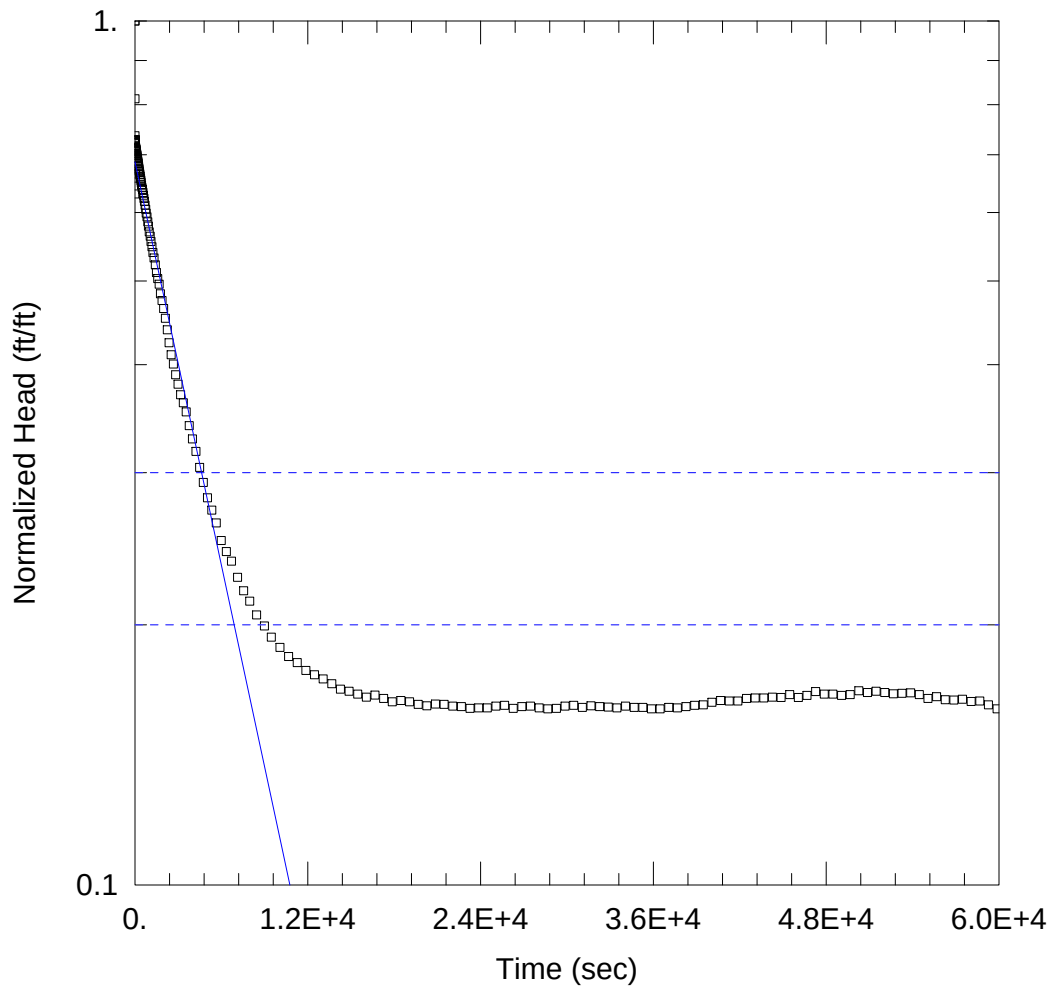
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 2.928

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	1.082E-5	cm/sec
y0	3.673	ft

$$T = K \cdot b = 0.01583 \text{ cm}^2/\text{sec}$$



MW-6A FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-6A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 48. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-6A)

Initial Displacement: 5.347 ft Static Water Column Height: 47.17 ft
 Total Well Penetration Depth: 47.17 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 1.082E-5$ cm/sec $y_0 = 3.673$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-6A Falling Head HS.aqt
 Title: MW-6A Falling Head Test
 Date: 04/22/15
 Time: 14:37:20

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-6A

AQUIFER DATA

Saturated Thickness: 48. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-6A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 5.347 ft
 Static Water Column Height: 47.17 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 47.17 ft

No. of Observations: 203

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	5.347	3775.3	1.818
0.599	4.346	3997.3	1.755
1.259	3.372	4237.3	1.698
1.979	3.893	4489.3	1.627
2.759	3.938	4753.3	1.563
3.539	3.898	5035.3	1.5
4.379	3.896	5335.3	1.452
5.279	3.895	5653.3	1.403
6.239	3.896	5989.3	1.339
7.199	3.892	6349.3	1.3
8.279	3.89	6709.3	1.267
9.42	3.889	7129.3	1.214
10.62	3.891	7549.3	1.171
11.88	3.885	7969.3	1.139
13.2	3.884	8449.3	1.098
14.64	3.88	8989.3	1.066
16.14	3.875	9469.3	1.035
17.7	3.873	1.007E+4	1.007
19.38	3.865	1.067E+4	0.983
21.18	3.866	1.127E+4	0.967
23.04	3.869	1.187E+4	0.947
25.08	3.863	1.247E+4	0.936
27.18	3.861	1.307E+4	0.926
29.4	3.517	1.367E+4	0.914
31.8	3.832	1.427E+4	0.901
34.32	3.832	1.487E+4	0.896
36.96	3.556	1.547E+4	0.889
39.78	3.828	1.607E+4	0.882
42.78	3.821	1.667E+4	0.887

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
45.96	3.819	1.727E+4	0.879
49.32	3.811	1.787E+4	0.871
52.92	3.807	1.847E+4	0.874
56.52	3.799	1.907E+4	0.871
60.72	3.803	1.967E+4	0.865
64.92	3.797	2.027E+4	0.862
69.12	3.789	2.087E+4	0.866
73.92	3.79	2.147E+4	0.865
79.32	3.778	2.207E+4	0.861
84.12	3.778	2.267E+4	0.86
90.12	3.773	2.327E+4	0.856
96.12	3.772	2.387E+4	0.857
102.1	3.761	2.447E+4	0.857
108.7	3.758	2.507E+4	0.861
115.9	3.752	2.567E+4	0.863
123.7	3.751	2.627E+4	0.856
131.5	3.738	2.687E+4	0.86
139.9	3.736	2.747E+4	0.861
148.9	3.723	2.807E+4	0.857
158.5	3.714	2.867E+4	0.855
168.1	3.704	2.927E+4	0.856
178.9	3.702	2.987E+4	0.861
190.3	3.685	3.047E+4	0.863
202.3	3.675	3.107E+4	0.858
214.9	3.664	3.167E+4	0.862
228.1	3.656	3.227E+4	0.86
242.5	3.639	3.287E+4	0.859
257.5	3.626	3.347E+4	0.857
273.1	3.611	3.407E+4	0.861
289.9	3.598	3.467E+4	0.858
307.9	3.58	3.527E+4	0.858
326.5	3.567	3.587E+4	0.855
346.9	3.55	3.647E+4	0.855
367.9	3.533	3.707E+4	0.858
390.1	3.512	3.767E+4	0.857
414.1	3.494	3.827E+4	0.86
439.3	3.475	3.887E+4	0.863
465.7	3.452	3.947E+4	0.864
493.9	3.428	4.007E+4	0.87
523.9	3.412	4.067E+4	0.874
555.7	3.384	4.127E+4	0.873
589.3	3.36	4.187E+4	0.873
625.3	3.331	4.247E+4	0.879
661.3	3.306	4.307E+4	0.88
703.3	3.273	4.367E+4	0.88
745.3	3.237	4.427E+4	0.882
787.3	3.203	4.487E+4	0.881
835.3	3.172	4.547E+4	0.888
889.3	3.131	4.607E+4	0.881
937.3	3.094	4.667E+4	0.886
997.3	3.048	4.727E+4	0.895
1057.3	3.012	4.787E+4	0.889
1117.3	2.97	4.847E+4	0.889
1183.3	2.929	4.907E+4	0.886
1255.3	2.884	4.967E+4	0.888
1333.3	2.843	5.027E+4	0.897
1411.3	2.791	5.087E+4	0.893
1495.3	2.735	5.147E+4	0.896
1585.3	2.691	5.207E+4	0.893
1681.3	2.651	5.267E+4	0.89
1777.3	2.584	5.327E+4	0.891
1885.3	2.538	5.387E+4	0.892
1999.3	2.485	5.447E+4	0.888
2119.3	2.421	5.507E+4	0.879
2245.3	2.348	5.567E+4	0.883
2377.3	2.268	5.627E+4	0.876

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
2521.3	2.196	5.687E+4	0.875
2671.3	2.143	5.747E+4	0.877
2827.3	2.082	5.807E+4	0.872
2995.3	2.031	5.867E+4	0.873
3175.3	1.974	5.927E+4	0.864
3361.3	1.933	5.987E+4	0.855
3565.3	1.886		

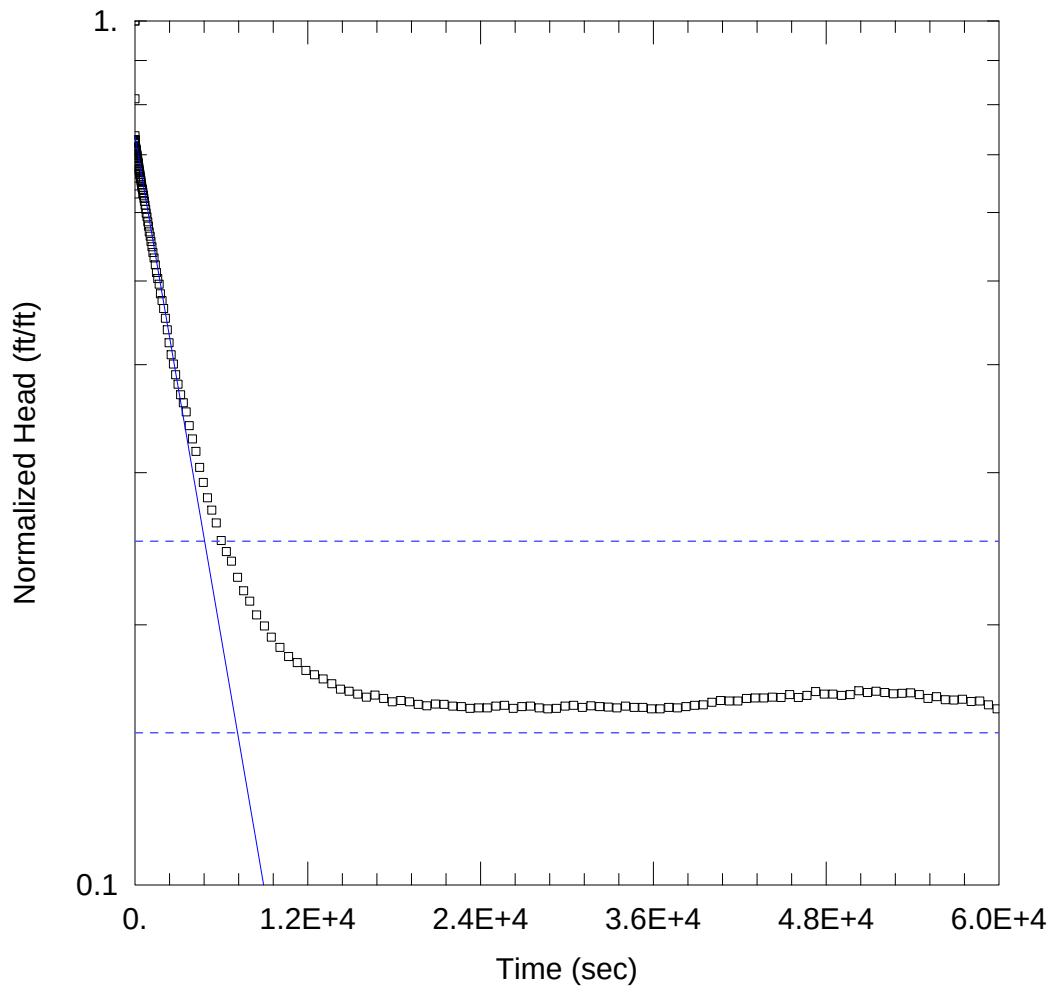
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.3381

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	1.362E-5	cm/sec
y0	3.935	ft

$$T = K \cdot b = 0.01993 \text{ cm}^2/\text{sec}$$



MW-6A FALLING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-6A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 48. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-6A)

Initial Displacement: 5.347 ft Static Water Column Height: 47.17 ft
 Total Well Penetration Depth: 47.17 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 1.362E-5$ cm/sec $y_0 = 3.935$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-6A Rising Head BR.aqt
 Title: MW-6A Rising Head Test
 Date: 04/22/15
 Time: 14:37:54

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-6A

AQUIFER DATA

Saturated Thickness: 48. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-6A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.715 ft
 Static Water Column Height: 47.17 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 47.17 ft

No. of Observations: 116

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.715	486.7	3.106
1.08	4.694	516.7	3.073
2.22	4.683	548.5	3.042
3.42	4.645	582.1	3.007
4.68	4.593	618.1	2.967
6.	3.753	654.1	2.934
7.44	3.751	696.1	2.889
8.94	3.75	738.1	2.846
10.5	3.743	780.1	2.803
12.18	3.739	828.1	2.758
13.98	3.735	882.1	2.704
15.84	3.726	930.1	2.669
17.88	3.719	990.1	2.618
19.98	3.712	1050.1	2.561
22.2	3.709	1110.1	2.513
24.63	3.702	1176.1	2.455
27.12	3.698	1248.1	2.412
29.76	3.69	1326.1	2.352
32.58	3.687	1404.1	2.289
35.58	3.684	1488.1	2.226
38.76	3.681	1578.1	2.15
42.12	3.67	1674.1	2.08
45.72	3.663	1770.1	2.009
49.32	3.659	1878.1	1.943
53.52	3.652	1992.1	1.86
57.72	3.647	2112.1	1.791
61.92	3.645	2238.1	1.722
66.72	3.634	2370.1	1.649
72.12	3.625	2514.1	1.57

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
76.92	3.62	2664.1	1.5
82.92	3.61	2820.1	1.429
88.92	3.6	2988.1	1.352
94.92	3.593	3168.1	1.282
101.5	3.584	3354.1	1.211
108.7	3.571	3558.1	1.14
116.5	3.561	3768.1	1.063
124.3	3.555	3990.1	0.986
132.7	3.538	4230.1	0.921
141.7	3.528	4482.1	0.855
151.3	3.518	4746.1	0.805
160.9	3.5	5028.1	0.731
171.7	3.489	5328.1	0.679
183.1	3.472	5646.1	0.629
195.1	3.454	5982.1	0.57
207.7	3.441	6342.1	0.518
220.9	3.422	6702.1	0.472
235.3	3.406	7122.1	0.41
250.3	3.385	7542.1	0.371
265.9	3.363	7962.1	0.339
282.7	3.34	8442.1	0.309
300.7	3.322	8982.1	0.271
319.3	3.298	9462.1	0.264
339.7	3.271	1.006E+4	0.235
360.7	3.243	1.066E+4	0.218
382.9	3.218	1.126E+4	0.194
406.9	3.193	1.186E+4	0.182
432.1	3.171	1.246E+4	0.173
458.5	3.138	1.306E+4	0.157

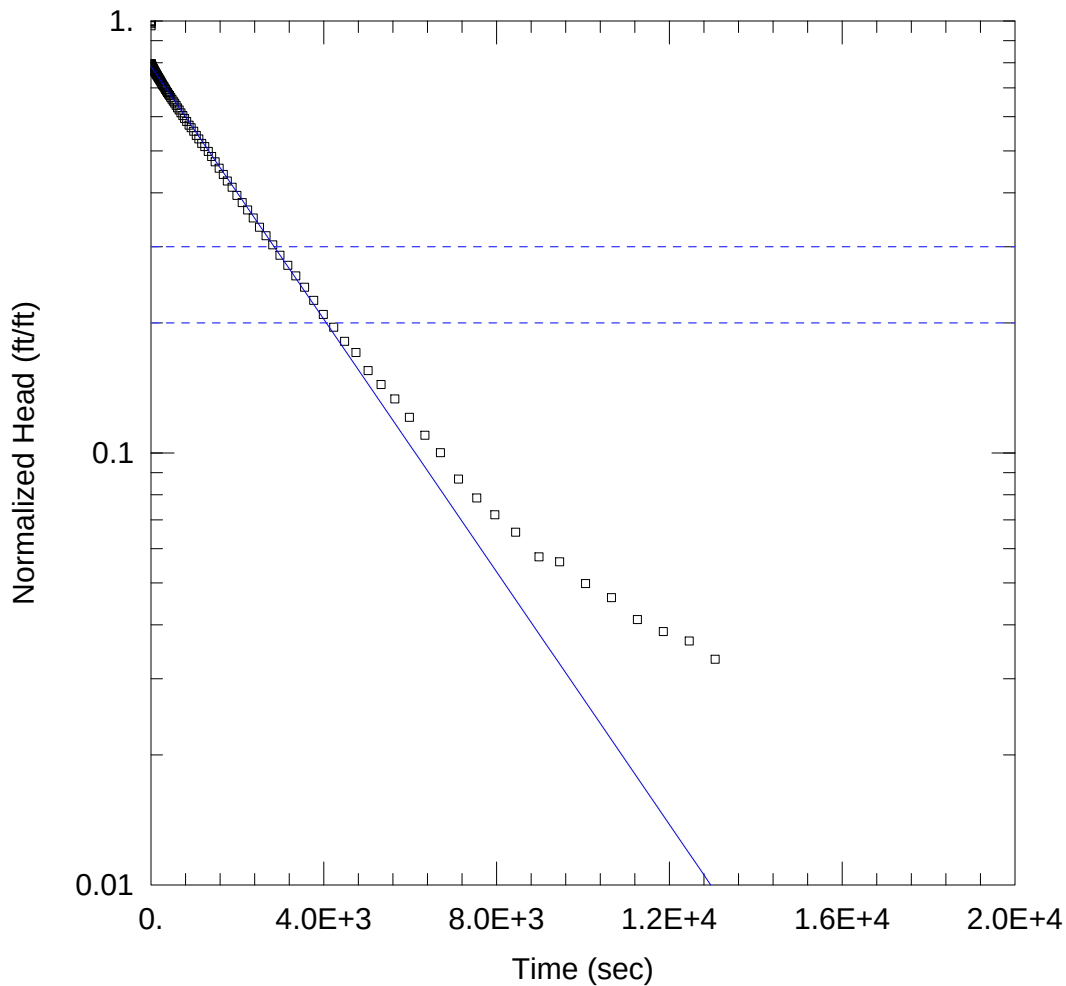
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 $\ln(R_e/r_w)$: 2.928

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
K	2.033E-5	cm/sec
y0	3.695	ft

$$T = K \cdot b = 0.02974 \text{ cm}^2/\text{sec}$$



MW-6A RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-6A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 48. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-6A)

Initial Displacement: 4.715 ft Static Water Column Height: 47.17 ft
 Total Well Penetration Depth: 47.17 ft Screen Length: 4.8 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 2.033E-5$ cm/sec $y_0 = 3.695$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-6A Rising Head HS.aqt
 Title: MW-6A Rising Head Test
 Date: 04/22/15
 Time: 14:38:33

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-6A

AQUIFER DATA

Saturated Thickness: 48. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-6A

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.715 ft
 Static Water Column Height: 47.17 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 4.8 ft
 Total Well Penetration Depth: 47.17 ft

No. of Observations: 116

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.715	486.7	3.106
1.08	4.694	516.7	3.073
2.22	4.683	548.5	3.042
3.42	4.645	582.1	3.007
4.68	4.593	618.1	2.967
6.	3.753	654.1	2.934
7.44	3.751	696.1	2.889
8.94	3.75	738.1	2.846
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24.63	3.702	1176.1	2.455
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32.58	3.687	1404.1	2.289
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38.76	3.681	1578.1	2.15
42.12	3.67	1674.1	2.08
45.72	3.663	1770.1	2.009
49.32	3.659	1878.1	1.943
53.52	3.652	1992.1	1.86
57.72	3.647	2112.1	1.791
61.92	3.645	2238.1	1.722
66.72	3.634	2370.1	1.649
72.12	3.625	2514.1	1.57

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
76.92	3.62	2664.1	1.5
82.92	3.61	2820.1	1.429
88.92	3.6	2988.1	1.352
94.92	3.593	3168.1	1.282
101.5	3.584	3354.1	1.211
108.7	3.571	3558.1	1.14
116.5	3.561	3768.1	1.063
124.3	3.555	3990.1	0.986
132.7	3.538	4230.1	0.921
141.7	3.528	4482.1	0.855
151.3	3.518	4746.1	0.805
160.9	3.5	5028.1	0.731
171.7	3.489	5328.1	0.679
183.1	3.472	5646.1	0.629
195.1	3.454	5982.1	0.57
207.7	3.441	6342.1	0.518
220.9	3.422	6702.1	0.472
235.3	3.406	7122.1	0.41
250.3	3.385	7542.1	0.371
265.9	3.363	7962.1	0.339
282.7	3.34	8442.1	0.309
300.7	3.322	8982.1	0.271
319.3	3.298	9462.1	0.264
339.7	3.271	1.006E+4	0.235
360.7	3.243	1.066E+4	0.218
382.9	3.218	1.126E+4	0.194
406.9	3.193	1.186E+4	0.182
432.1	3.171	1.246E+4	0.173
458.5	3.138	1.306E+4	0.157

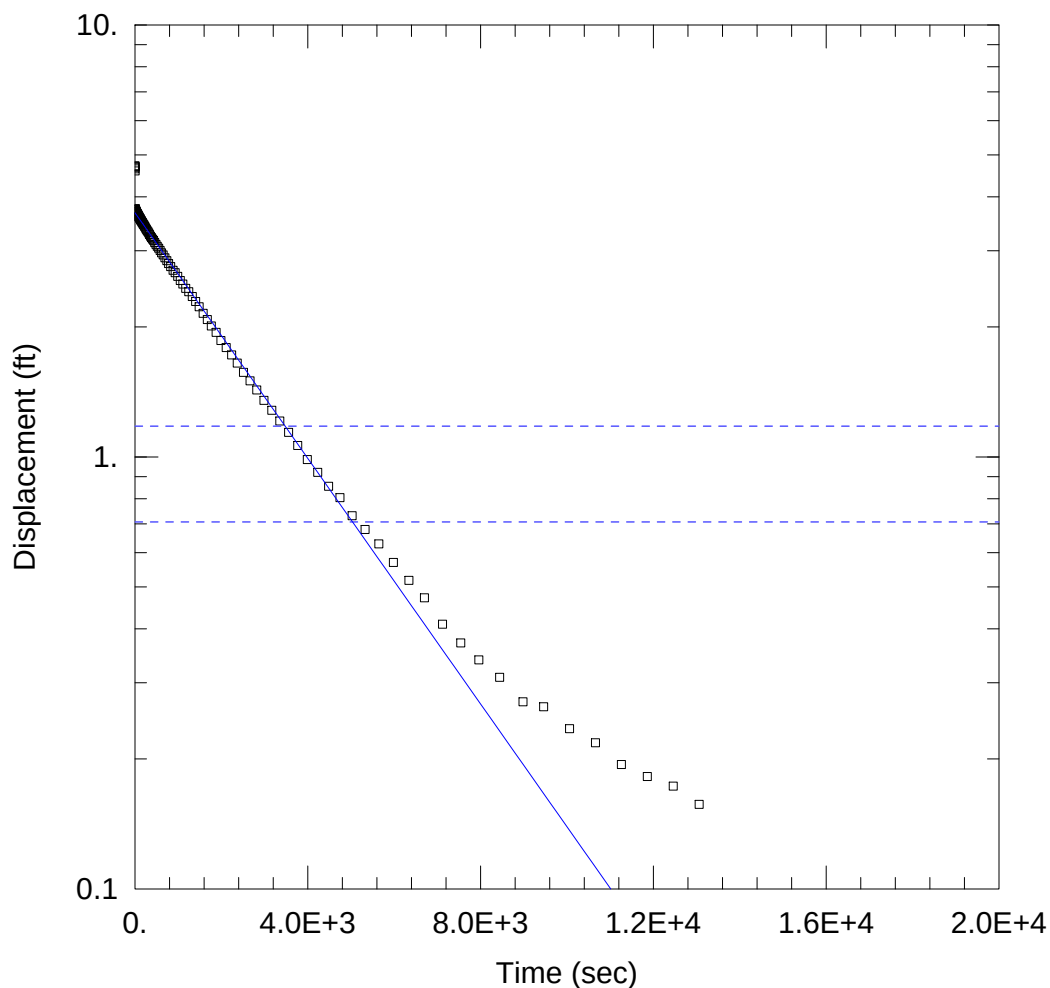
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.3381

VISUAL ESTIMATION RESULTSEstimated Parameters

Parameter	Estimate	
K	1.996E-5	cm/sec
y0	3.674	ft

$$T = K \cdot b = 0.02921 \text{ cm}^2/\text{sec}$$



MW-6A RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-6A
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 48. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-6A)

Initial Displacement: 4.715 ft
 Total Well Penetration Depth: 47.17 ft
 Casing Radius: 0.086 ft

Static Water Column Height: 47.17 ft
 Screen Length: 4.8 ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

$K = 1.996E-5$ cm/sec

$y_0 = 3.674$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-7 Rising Head BR.aqt
 Title: MW-7 Rising Head Test
 Date: 04/22/15
 Time: 14:39:15

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-7

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-7

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 2.221 ft
 Static Water Column Height: 12.47 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.4 ft
 Total Well Penetration Depth: 12.47 ft

No. of Observations: 47

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.221	79.98	0.127
1.56	1.696	85.98	0.121
3.24	1.459	92.58	0.104
5.04	1.27	99.78	0.097
6.9	1.115	107.6	0.089
8.94	0.973	115.4	0.08
11.04	0.855	123.8	0.066
13.26	0.758	132.8	0.061
15.66	0.671	142.4	0.065
18.18	0.6	152.	0.062
20.83	0.535	162.8	0.062
23.64	0.48	174.2	0.059
26.64	0.43	186.2	0.044
29.82	0.383	198.8	0.036
33.18	0.351	212.	0.024
36.78	0.312	226.4	0.023
40.38	0.285	241.4	0.013
44.58	0.248	257.	-0.001
48.78	0.222	273.8	-0.002
52.98	0.207	291.8	0.004
57.78	0.189	310.4	0.011
63.18	0.167	330.8	0.013
67.98	0.157	351.8	0.012
73.98	0.138		

SOLUTION

Slug Test
 Aquifer Model: Unconfined

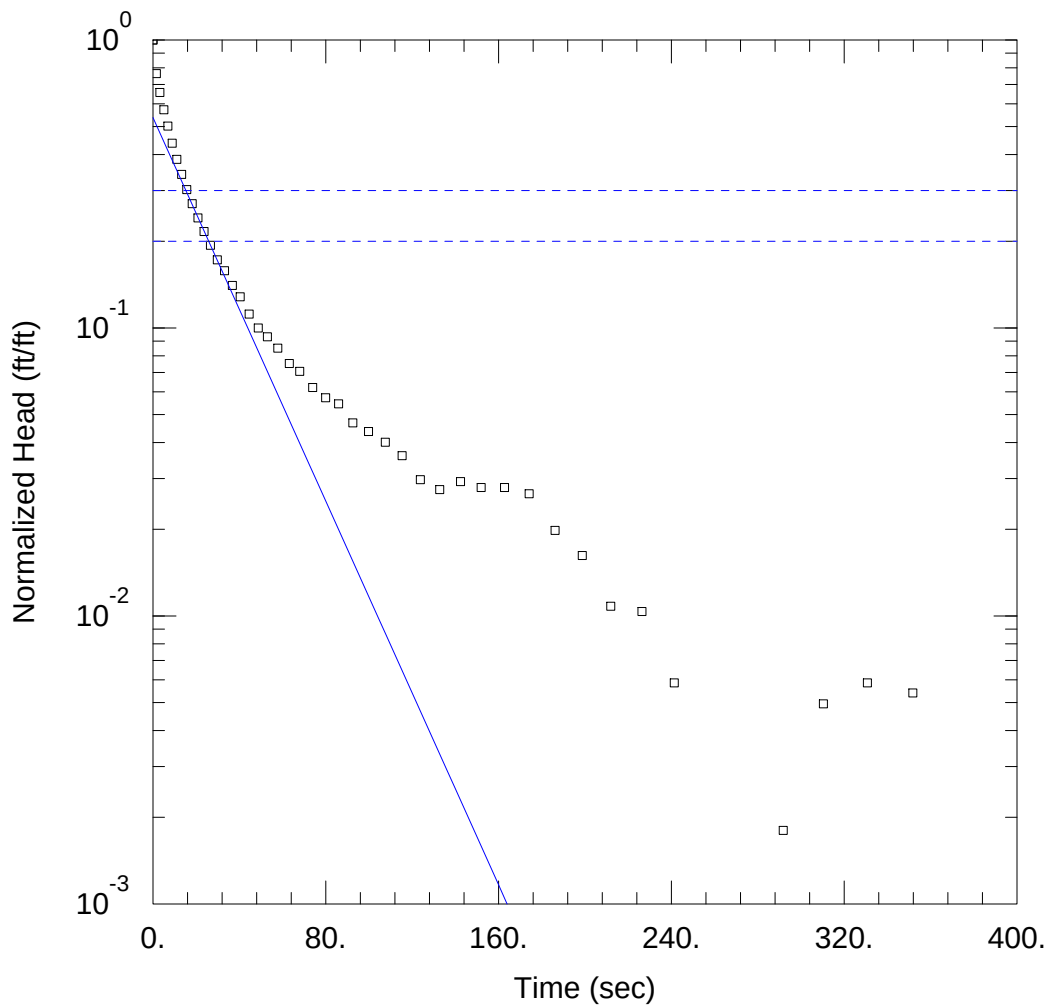
Solution Method: Bouwer-Rice
ln(Re/rw): 2.425

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.0009792	cm/sec
y0	1.194	ft

$T = K \cdot b = 1.642 \text{ cm}^2/\text{sec}$



MW-7 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-7
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-7)

Initial Displacement: 2.221 ft Static Water Column Height: 12.47 ft
 Total Well Penetration Depth: 12.47 ft Screen Length: 9.4 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 0.0009792$ cm/sec $y_0 = 1.194$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-7 Rising Head HS.aqt
 Title: MW-7 Rising Head Test
 Date: 04/22/15
 Time: 14:40:21

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-7

AQUIFER DATA

Saturated Thickness: 55. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-7

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 2.221 ft
 Static Water Column Height: 12.47 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 9.4 ft
 Total Well Penetration Depth: 12.47 ft

No. of Observations: 47

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.221	79.98	0.127
1.56	1.696	85.98	0.121
3.24	1.459	92.58	0.104
5.04	1.27	99.78	0.097
6.9	1.115	107.6	0.089
8.94	0.973	115.4	0.08
11.04	0.855	123.8	0.066
13.26	0.758	132.8	0.061
15.66	0.671	142.4	0.065
18.18	0.6	152.	0.062
20.83	0.535	162.8	0.062
23.64	0.48	174.2	0.059
26.64	0.43	186.2	0.044
29.82	0.383	198.8	0.036
33.18	0.351	212.	0.024
36.78	0.312	226.4	0.023
40.38	0.285	241.4	0.013
44.58	0.248	257.	-0.001
48.78	0.222	273.8	-0.002
52.98	0.207	291.8	0.004
57.78	0.189	310.4	0.011
63.18	0.167	330.8	0.013
67.98	0.157	351.8	0.012
73.98	0.138		

SOLUTION

Slug Test
 Aquifer Model: Unconfined

Solution Method: Hvorslev

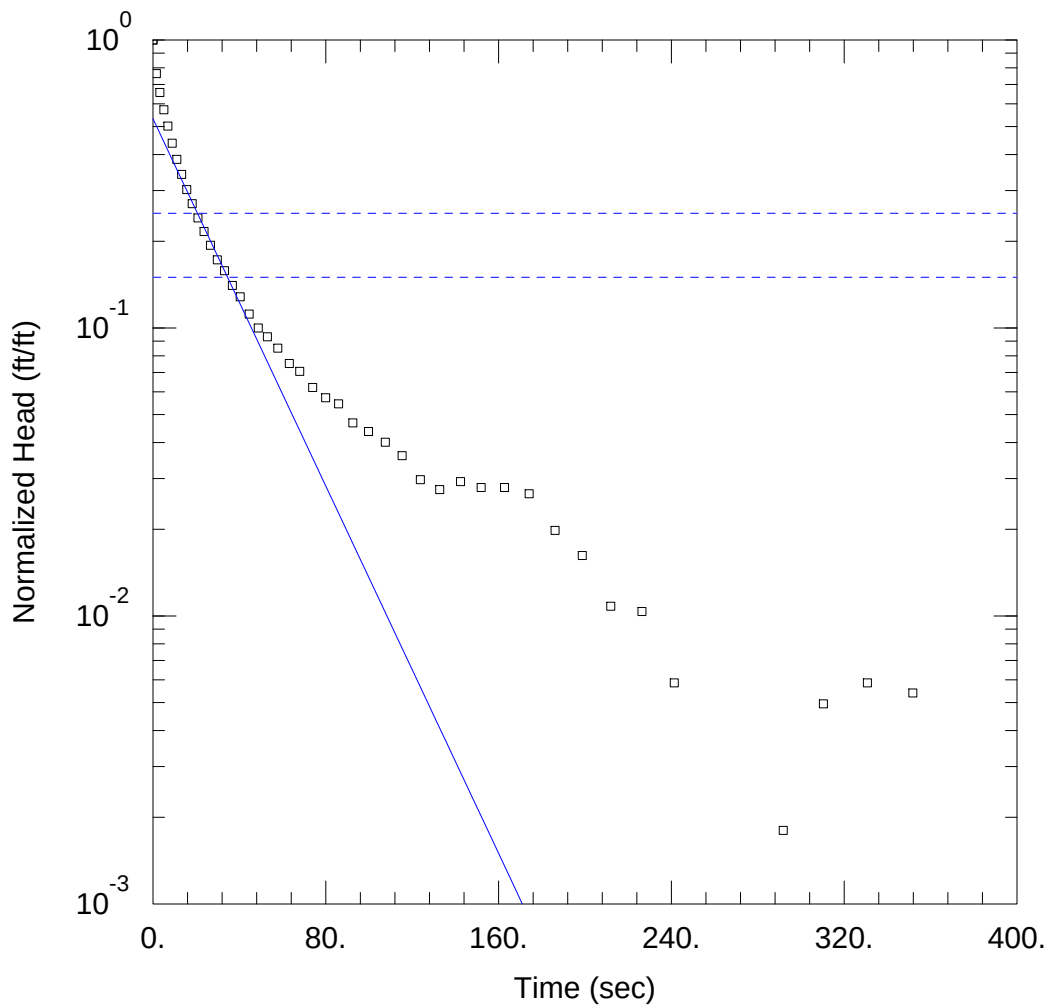
Log Factor: 0.2757

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.001402	cm/sec
y0	1.183	ft

$T = K \cdot b = 2.351 \text{ cm}^2/\text{sec}$



MW-7 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-7
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 55. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-7)

Initial Displacement: 2.221 ft Static Water Column Height: 12.47 ft
 Total Well Penetration Depth: 12.47 ft Screen Length: 9.4 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 0.001402$ cm/sec $y_0 = 1.183$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-13 Rising Head BR.aqt
 Title: MW-13 Rising Head Test
 Date: 04/22/15
 Time: 14:40:57

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-13

AQUIFER DATA

Saturated Thickness: 27. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-13

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.383 ft
 Static Water Column Height: 26.72 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 34.7 ft
 Total Well Penetration Depth: 34.7 ft

No. of Observations: 71

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.383	66.12	0.798
0.6	2.486	70.32	0.772
1.2	2.079	75.12	0.744
1.8	2.104	80.52	0.716
2.46	2.101	85.32	0.689
3.18	2.068	91.32	0.662
3.96	2.021	97.32	0.65
4.74	1.98	103.3	0.627
5.58	1.944	109.9	0.612
6.48	1.903	117.1	0.593
7.44	1.865	124.9	0.569
8.4	1.816	132.7	0.556
9.48	1.773	141.1	0.547
10.62	1.732	150.1	0.531
11.82	1.697	159.7	0.523
13.08	1.645	169.3	0.512
14.4	1.607	180.1	0.504
15.84	1.569	191.5	0.493
17.34	1.524	203.5	0.481
18.9	1.493	216.1	0.474
20.58	1.448	229.3	0.465
22.38	1.41	243.7	0.452
24.24	1.374	258.7	0.442
26.28	1.334	274.3	0.43
28.38	1.295	291.1	0.421
30.6	1.247	309.1	0.413
33.	1.213	327.7	0.401
35.52	1.167	348.1	0.384
38.16	1.124	369.1	0.376

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
40.98	1.081	391.3	0.36
43.98	1.035	415.3	0.345
47.16	0.991	440.5	0.329
50.52	0.96	466.9	0.312
54.12	0.917	495.1	0.296
57.72	0.877	525.1	0.303
61.92	0.837		

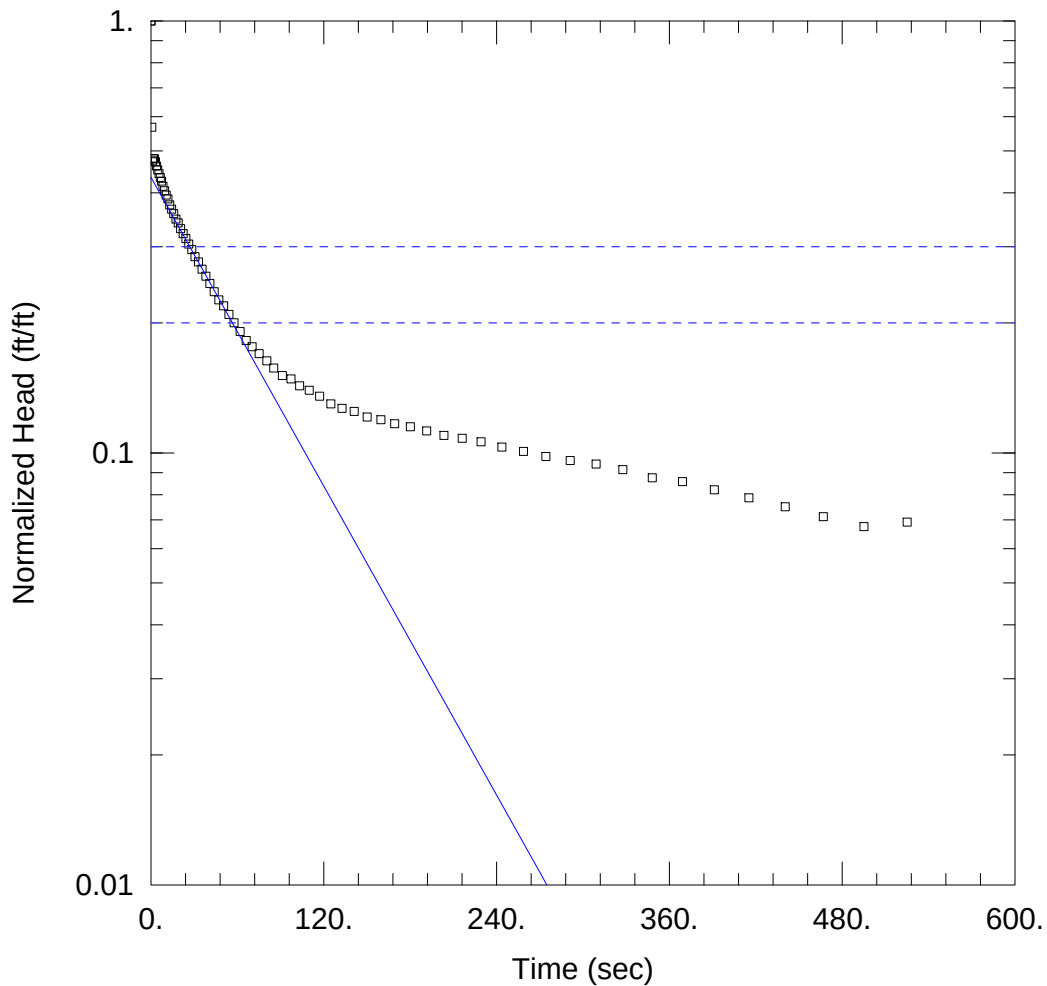
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 3.768

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.0001895	cm/sec
y0	1.904	ft

$$T = K \cdot b = 0.156 \text{ cm}^2/\text{sec}$$



MW-13 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-13
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 27. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-13)

Initial Displacement: 4.383 ft Static Water Column Height: 26.72 ft
 Total Well Penetration Depth: 34.7 ft Screen Length: 34.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 0.0001895$ cm/sec $y_0 = 1.904$ ft

Data Set: C:\Users\christopher.bruce\Documents\CTS-Asheville\Aqtesol\MW-13 Rising Head HS.aqt
 Title: MW-13 Rising Head Test
 Date: 04/22/15
 Time: 14:41:27

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Date: 4-9-15
 Test Well: MW-13

AQUIFER DATA

Saturated Thickness: 27. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-13

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 4.383 ft
 Static Water Column Height: 26.72 ft
 Casing Radius: 0.086 ft
 Well Radius: 0.25 ft
 Well Skin Radius: 0.25 ft
 Screen Length: 34.7 ft
 Total Well Penetration Depth: 34.7 ft

No. of Observations: 71

Observation Data			
Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.383	66.12	0.798
0.6	2.486	70.32	0.772
1.2	2.079	75.12	0.744
1.8	2.104	80.52	0.716
2.46	2.101	85.32	0.689
3.18	2.068	91.32	0.662
3.96	2.021	97.32	0.65
4.74	1.98	103.3	0.627
5.58	1.944	109.9	0.612
6.48	1.903	117.1	0.593
7.44	1.865	124.9	0.569
8.4	1.816	132.7	0.556
9.48	1.773	141.1	0.547
10.62	1.732	150.1	0.531
11.82	1.697	159.7	0.523
13.08	1.645	169.3	0.512
14.4	1.607	180.1	0.504
15.84	1.569	191.5	0.493
17.34	1.524	203.5	0.481
18.9	1.493	216.1	0.474
20.58	1.448	229.3	0.465
22.38	1.41	243.7	0.452
24.24	1.374	258.7	0.442
26.28	1.334	274.3	0.43
28.38	1.295	291.1	0.421
30.6	1.247	309.1	0.413
33.	1.213	327.7	0.401
35.52	1.167	348.1	0.384
38.16	1.124	369.1	0.376

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
40.98	1.081	391.3	0.36
43.98	1.035	415.3	0.345
47.16	0.991	440.5	0.329
50.52	0.96	466.9	0.312
54.12	0.917	495.1	0.296
57.72	0.877	525.1	0.303
61.92	0.837		

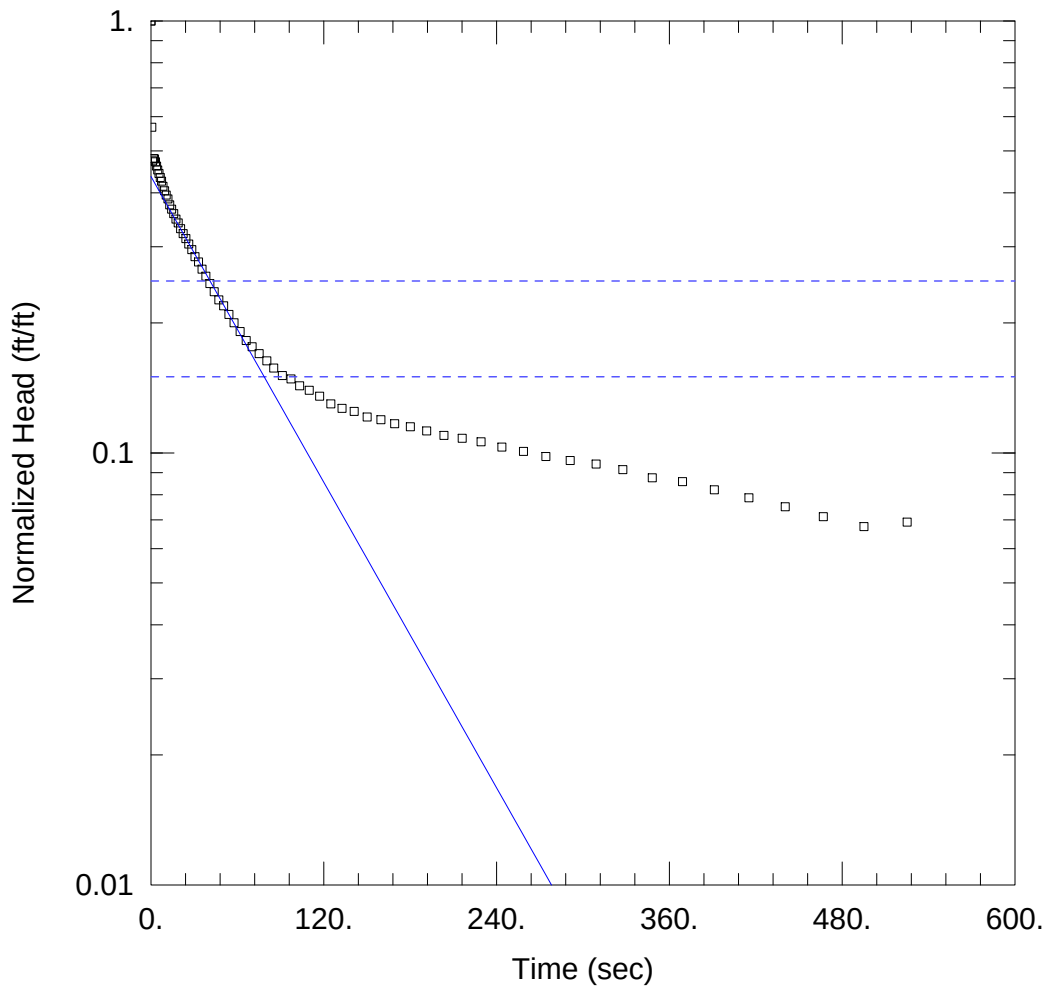
SOLUTION

Slug Test
 Aquifer Model: Unconfined
 Solution Method: Hvorslev
 Log Factor: 0.1887

VISUAL ESTIMATION RESULTSEstimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.0002637	cm/sec
y0	1.912	ft

$$T = K \cdot b = 0.217 \text{ cm}^2/\text{sec}$$



MW-13 RISING HEAD TEST

PROJECT INFORMATION

Company: AMEC Foster Wheeler
 Client: CTS
 Project: 6251-12-1007
 Location: Asheville, North Carolina
 Test Well: MW-13
 Test Date: 4-9-15

AQUIFER DATA

Saturated Thickness: 27. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-13)

Initial Displacement: 4.383 ft Static Water Column Height: 26.72 ft
 Total Well Penetration Depth: 34.7 ft Screen Length: 34.7 ft
 Casing Radius: 0.086 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
 $K = 0.0002637$ cm/sec $y_0 = 1.912$ ft

APPENDIX K

ELECTRICAL RESISTIVITY HEATING BENCH TEST REPORT

ERH Bench Testing Report Asheville, North Carolina Site

One soil sample was collected from the Site in Asheville, North Carolina and shipped to TRS for bench treatability testing. The sample, identified as SS-42, was collected in 4, 1-liter sample jars, placed in a cooler at 4°C, and shipped by over-night courier. The submitted soil sample consisted of light brown, fine to medium grain sand. A photograph of the submitted test samples is shown in Figure 1 below.



Figure 1: Submitted Soil Sample SS-42

GEOPHYSICAL TESTING

The submitted sample was tested to determine the wet density, dry density and electrical resistivity of the soil. The testing showed that the SS-42 sample had a wet density of 1.75 g/cc and a dry density value of 1.45 g/cc. The porosity of the soil was calculated to be approximately 45%. The SS-42 soil sample was also subjected to resistivity testing using the two-electrode soil box method outlined in ASTM G187-12a (Figure 2).

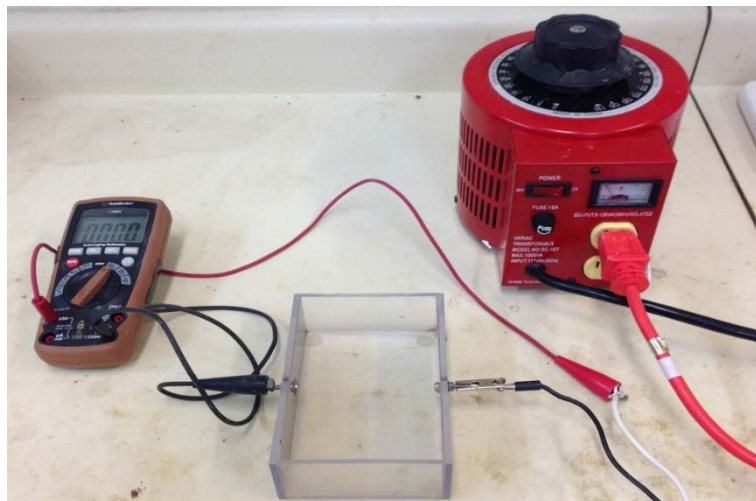


Figure 2: Two-Electrode Soil Box

Testing was performed at several different voltage levels in the range of 20 to 130 volts. As shown in Table 1 below, the SS-42 Sample exhibited a resistivity of approximately 110 ohm-m.

TABLE 1: SS-42 Sample Resistivity Test Results

 TRS <i>Accelerating Value</i>  G187 – 12a					
<u>Soil Resistivity Test using the Two-Electrode Soil Box Method</u>					
1/28/2015			A/d (cm) = 6.4		
Sample Description	Sample Temperature (°C)	Voltage	Amps	Measured Resistance (Ω)	Calculated Resistivity (Ω-m)
SS-42	6	20	0.013	1538	99
SS-42	6	30	0.019	1579	102
SS-42	6	40	0.025	1600	103
SS-42	6	50	0.03	1667	107
SS-42	6	60	0.036	1667	107
SS-42	6	70	0.042	1667	107
SS-42	6	80	0.048	1667	107
SS-42	6	90	0.053	1698	109
SS-42	6	100	0.059	1695	109
SS-42	6	110	0.065	1692	109
SS-42	6	120	0.070	1714	110
SS-42	6	130	0.076	1711	110

The SS-42 was tested for percent moisture, analyzed for total organic carbon (TOC) using the USDA Loss on Ignition Method, and screened for volatile organic compounds (VOCs) using an in-house gas chromatograph (GC) and USEPA Method 3810. The loss on ignition data (organic matter) indicated the TOC of the SS-42 sample was 0.36%. The in-house GC screening identified trichloroethylene (TCE) as the primary compound of interest, present at a concentration of 108 mg/kg. The physical and chemical characteristics of the Site media are summarized in Table 2 below.

TABLE 2. Physical Characteristics of Untreated Soil

Testing Parameter	Reporting Units	BTS-140612-12 Sample
Percent Moisture	% of wet weight	17.0
Wet Density	g/cc	1.75
Dry Density	g/cc	1.45
TOC	% of dry weight	0.36
TCE (Method 3810)	mg/kg	108
TCE (Method 8260)	mg/kg	120
TPH-DRO (Method 8015)	mg/kg	14,000

BENCH TESTING PROTOCOL

Boil-down bench testing was only performed on the SS-42 sample. Five, 500-gram sub-samples were isolated from the sample for testing. The five sub-samples were gently pressed into Pyrex trays for testing and covered with perforated, plastic cling wrap. The fifth sub-sample was set aside to serve as the control or “baseline” for the heating test. Analyses during bench testing were performed using the in-house GC because prior bench testing experience has indicated that an unacceptable loss of VOCs occurs from dry soil samples during shipment to an off-site laboratory

A microwave oven was used to heat the individual sub-samples to simulate the proposed ERH treatment. Use of a microwave provides the most uniform and rapid heating method possible for small soil samples. TRS has used microwave heating for dozens of bench evaluations and successfully extrapolated the data for design of both pilot- and full-scale field applications. The test samples were prepared on the Pyrex trays using a flat geometry with a slight concavity in the center. This geometry, with the media in the center of the trays about half as thick as media near the edges, is designed to heat as even as possible. Four of the sub-samples were microwaved for 60-second intervals until pre-determine amounts of water were boiled from the samples to hit percent water removal targets. After each heated interval the dish was weighed to determine the amount of water that had evaporated.

Heating for the sub-samples of the SS-42 Sample was continued until approximately 25%, 50%, 75%, and 90% of the moisture was evaporated from the sub-samples. One sub-sample (SS-42 Sub-Sample 0) was subjected to entire handling procedure, but without heating, to serve as a method control that accounts for handling losses. A summary of the test data for the SS-42 Sample is included in Table 3 below.

TABLE 3: SS-42 Sample Moisture Loss Data

ERH Bench Test Data	Sub-Sample 0	Sub-Sample 1	Sub-Sample 2	Sub-Sample 3	Sub-Sample 4
Initial Mass (g)	500	500	500	500	500
Mass after Heating (g)	500	479	453	437	424
Mass of Water Removed (g)	0	21	47	63	76
% Water Removed	0	24.7	55.3	74.1	89.4
% Moisture Post-Heating	17.0	12.1	7.6	4.4	1.8

After completing the heating process, the heated sub-samples were refrigerated. Once cool, the samples were immediately subjected to VOC analyses by GC.

RESULTS

During the thermal bench test, weight loss due to the boiling of soil moisture was measured. This loss in sample mass can be directly converted to a term called “energy density” which refers to the amount of energy required per a specific volume of soil to achieve a desired VOC removal. This is a very important design parameter for ERH. Based on the density and moisture data determined during preliminary geophysical testing, the SS-42 Sample contains approximately 500 pounds (lbs) of water per cubic yard (yd³) of soil. Each pound of water boiled from the sandy soil requires approximately 0.625 kilowatt-hours (kWh) of energy. Using the percentage of water boiled from the samples, the energy densities can be calculated for each sample and compared to its prospective cleanup objectives. TCE was the only compound detected during GC screening of the submitted soil sample. The calculated energy density data and observed TCE concentrations from the in-house GC analyses for the SS-42 sample are shown in Table 4 below.

TABLE 4: Energy Density and TCE Concentrations for SS-42 Sample

Testing Parameters	Sub-Sample 0	Sub-Sample 1	Sub-Sample 2	Sub-Sample 3	Sub-Sample 4
Energy Density (kWh/yd ³)	0	73.6	165	221	267
Method 3810 TCE (mg/kg)	108	5.63	0.56	<0.03	<0.03
Method 8260 TCE (mg/kg)	120	0.20	0.42	0.32	0.11
Method 8015 TPH-DRO (mg/kg)	14,000	12,000	8,400	7,300	5,400

INTERPRETATION OF RESULTS

Thermal remediation is a boiling and steam stripping process. Boiling off a portion of the soil moisture into steam will result in a large decrease in the concentration of VOCs in proportion to the volume of steam created. The bench testing is designed to establish the VOC reduction that results from a known amount of water evaporation which in turn is converted into steam producing energy density values. The removal efficiency, when plotted on a semi-log graph, should produce a straight line. A best-fit analysis is then applied to the data to calculate the required steaming energy densities required to achieve specific cleanup criteria for individual VOCs. Data for TCE removal were plotted on a semi-log graph and an exponential trend line inserted to the data set to produce a graph of TCE removal as a function of applied energy density. The Method 3810 TCE and Method 8260 TCE are illustrated in Figure 3.

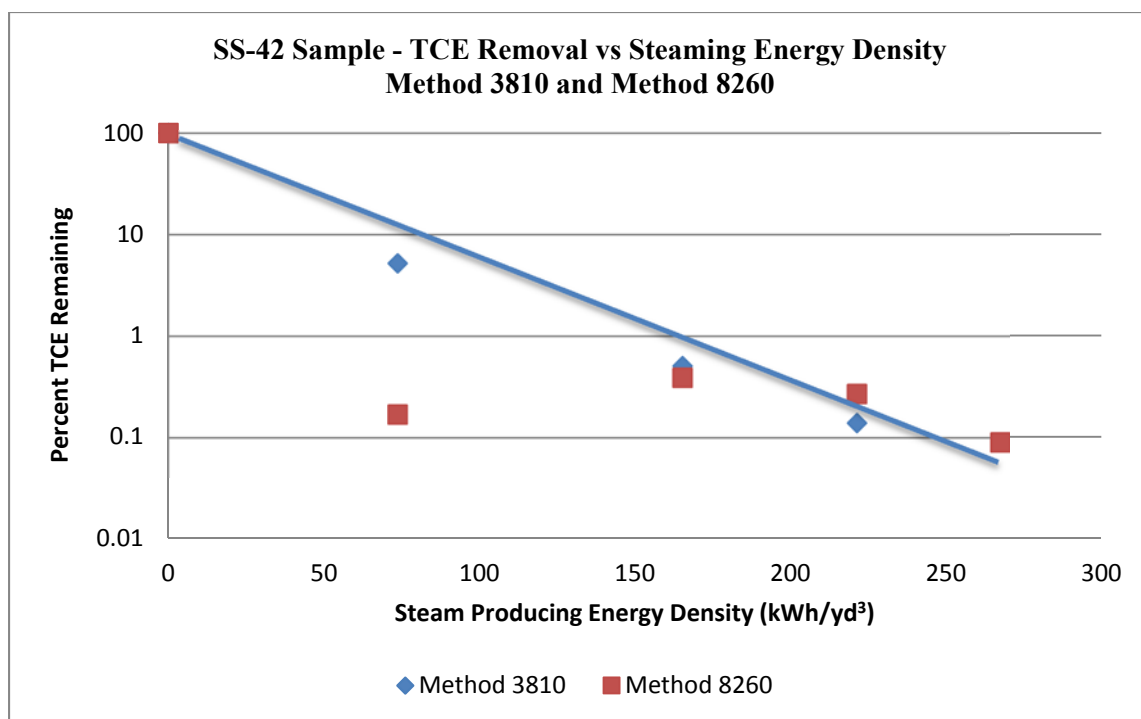


Figure 3: Energy Density Graph for Method 3810 TCE

Analysis of the data is typically performed using the in-house GC data produced by Method 3810 since the data for off-site testing by Method 8260 often shows a positive bias due to some VOC loss that occurs during shipment due to the increased porosity and dried state of the soils after the microwave testing. In this case, there was one anomalous data point for the off-site testing by Method 8260 for the sample where 25% of the moisture was removed. Other than this data point, the rest of the data showed good correlation for predictability of TCE removal from the soils as a function of applied energy.

The data plot for the in-house GC analyses (considered most reliable since it is performed immediately so that VOC loss by handling is minimal) had an R^2 value of 0.9842. The data show that a steaming energy density of approximately 165 kWh/yd³ will achieve a 99% reduction in TCE for the SS-42 sample (containing 0.36% TOC) and that a steaming energy density of 227 kWh/yd³ will achieve a 99.9% reduction in TCE.

The off-site analysis for DRO also showed that some of the DRO would be removed from the soils by ERH as shown below in Figure 4. At a steaming energy density of 270 kWh/yd³ slightly more than 60% of the DRO was removed from the soil sample. This suggests that the DRO fraction of hydrocarbons in the soils is comprised of a distillate in the lower boiling point range of the DRO analysis (i.e. closer to C12 than C20).

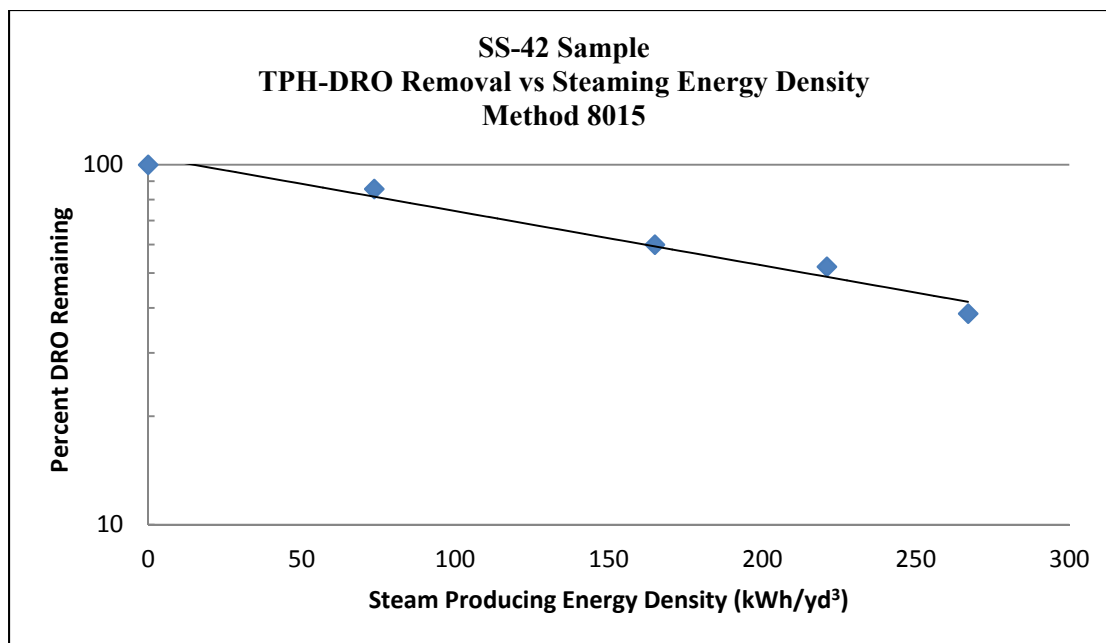


Figure 4: Energy Density Graph for Method 8015 TPH-DRO

CALCULATION OF TOTAL ENERGY DENSITY DESIGN VALUES

When designing an ERH system, TRS estimates a required amount of energy necessary to heat up a specific site and boil off water and volatile contaminants as part of treatment. The energy estimate is based on site data such as TOC, location of the water table, the geometry of the treatment volume and associated heat losses, as well as the contaminant of concern. With the results from this bench scale test we can calculate the energy that will be required to remove VOCs from the Site.

The total energy input determines the heating time and remediation cost for a thermal remediation. For thermal remediation, energy and heat are synonymous. The energy or heat input is determined by the total energy equation and can be summarized as follows:

$$\text{Total design energy} = \text{sensible heat} + \text{latent heat of vaporization} + \text{heat losses}$$

Sensible heat is the energy required to increase the subsurface temperature to the boiling point of water. The required sensible heat is approximately 50 kWh/yd³ for a typical site. Latent heat of vaporization is the energy required to boil water and evaporate VOCs. The energy density required for boiling water and evaporating the TCE solvent is provided from the bench scale graph in Figure 3. Heat losses to the surroundings during an actual ERH project are geometry-dependent and cannot be measured in a bench test. However, if we assume a typical value of 24 percent heat loss in combination with the data from the SS-42 Sample, the percent removal efficiency of TCE as a function of total energy density (including specific heat and heat loss) is provided in Figure 5 below.

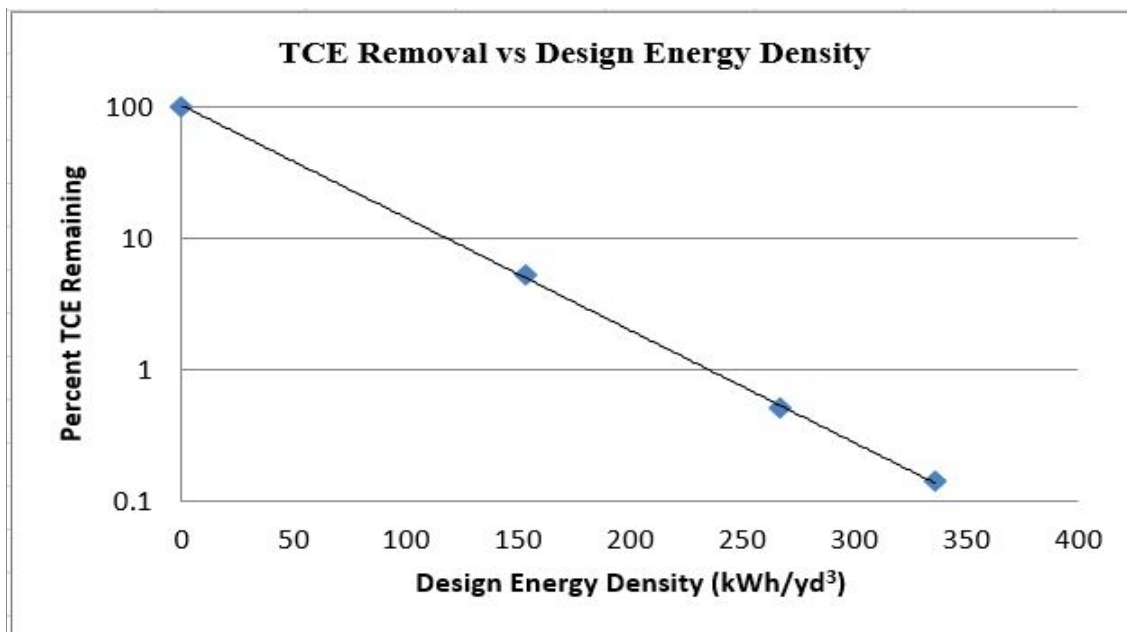


Figure 5: Design Energy Density

The data show that a design energy density of approximately 240 kWh/yd³ will achieve a 99% reduction in TCE for the SS-42 sample (containing 0.36% TOC) and that a design energy density of 350 kWh/yd³ will achieve a 99.9% reduction in TCE.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Due to sample handling, preparation, and heating procedures inherent with the bench test protocol, volatilization losses of target VOCs are to be expected. The testing is conducted in such a manner to provide reliable data, while minimizing these volatilization losses. The most significant VOC losses are most often recognized with shipment of test samples for off-site laboratory analyses. Consequently, sample screening was conducted using an in-house GC in order to provide rapid turn-around of analysis results for evaluation purposes, while minimizing the overall handling of test samples.

For QA/QC purposes the GC was calibrated for the known target VOCs for the Site. In addition, two QA/QC samples were collected during testing for each sample set; one from the control sample (“0”) and one from the initial sample (“5”). The relative difference (RD) between the samples is summarized below. In general, samples that show a RD of 25% or less are considered to be within acceptable standards for precision. The results below shown that the QA/QC objectives for this testing were achieved.

SS-42 Sample Method 3810 TCE QA/QC Duplicate

$$[(108 - 98.3) \times 2 / (108 + 98.3)] \times 100 = 9.40\%$$

SS-42 Sample Method 8260 TCE QA/QC Duplicate

$$[(120 - 110) \times 2 / (120 + 110)] \times 100 = 8.70\%$$

TEST BIASES

The following are known test biases:

- ERH remediation takes several months while the bench test occurs in several minutes. The longer time of heating in the field allows for reduction of volatile contaminants by mechanisms other than volatilization such as bioremediation. This bias is conservative.
- The bench testing was conducted in sealed containers and no contaminants were able to enter the soil from external untreated regions. In a field application, some contaminants will flow into the treated region in conjunction with groundwater. This bias is not conservative.

CONCLUSIONS

The bench testing shows that the TCE at the Site is highly amenable to treatment with ERH. The sand is moderately conductive and will provide uniform heating throughout the formation using ERH. Based on the bench test results, the design energy for this project is approximately 130 kWh/yd³ to achieve a 90% reduction in TCE concentrations, 240 kWh/yd³ to achieve a 99% reduction in TCE concentrations, and approximately 350 kWh/yd³ to achieve a 99.9% reduction in TCE.



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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Report Summary

Thursday February 05, 2015

Report Number: L745778

Samples Received: 01/28/15

Client Project: 213202182

Description: NC Treatability - Ashville, NC

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Leslie Newton , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BI0041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-0
Collected By : D. Schroder
Collection Date : 01/26/15 09:00

ESC Sample # : L745778-01

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.8		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	11.	mg/kg	8260B	02/03/15	190
Acrylonitrile	BDL	2.3	mg/kg	8260B	02/03/15	190
Benzene	BDL	0.23	mg/kg	8260B	02/03/15	190
Bromobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
Bromodichloromethane	BDL	0.23	mg/kg	8260B	02/03/15	190
Bromoform	BDL	0.23	mg/kg	8260B	02/03/15	190
Bromomethane	BDL	1.1	mg/kg	8260B	02/03/15	190
n-Butylbenzene	4.1	0.23	mg/kg	8260B	02/03/15	190
sec-Butylbenzene	4.6	0.23	mg/kg	8260B	02/03/15	190
tert-Butylbenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
Carbon tetrachloride	BDL	0.23	mg/kg	8260B	02/03/15	190
Chlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
Chlorodibromomethane	BDL	0.23	mg/kg	8260B	02/03/15	190
Chloroethane	BDL	1.1	mg/kg	8260B	02/03/15	190
2-Chloroethyl vinyl ether	BDL	11.	mg/kg	8260B	02/03/15	190
Chloroform	BDL	1.1	mg/kg	8260B	02/03/15	190
Chloromethane	BDL	0.57	mg/kg	8260B	02/03/15	190
2-Chlorotoluene	BDL	0.23	mg/kg	8260B	02/03/15	190
4-Chlorotoluene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,2-Dibromo-3-Chloropropane	BDL	1.1	mg/kg	8260B	02/03/15	190
1,2-Dibromoethane	BDL	0.23	mg/kg	8260B	02/03/15	190
Dibromomethane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,2-Dichlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,3-Dichlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,4-Dichlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
Dichlorodifluoromethane	BDL	1.1	mg/kg	8260B	02/03/15	190
1,1-Dichloroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,2-Dichloroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1-Dichloroethene	BDL	0.23	mg/kg	8260B	02/03/15	190
cis-1,2-Dichloroethene	BDL	0.23	mg/kg	8260B	02/03/15	190
trans-1,2-Dichloroethene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,2-Dichloropropane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1-Dichloropropene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,3-Dichloropropene	BDL	0.23	mg/kg	8260B	02/03/15	190
cis-1,3-Dichloropropene	BDL	0.23	mg/kg	8260B	02/03/15	190
trans-1,3-Dichloropropene	BDL	0.23	mg/kg	8260B	02/03/15	190
2,2-Dichloropropane	BDL	0.23	mg/kg	8260B	02/03/15	190
Di-isopropyl ether	BDL	0.23	mg/kg	8260B	02/03/15	190
Ethylbenzene	1.7	0.23	mg/kg	8260B	02/03/15	190
Hexachloro-1,3-butadiene	BDL	0.23	mg/kg	8260B	02/03/15	190
Isopropylbenzene	3.1	0.23	mg/kg	8260B	02/03/15	190

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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The reported analytical results relate only to the sample submitted



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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-0
Collected By : D. Schroder
Collection Date : 01/26/15 09:00

ESC Sample # : L745778-01

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	3.1	0.23	mg/kg	8260B	02/03/15	190
2-Butanone (MEK)	BDL	2.3	mg/kg	8260B	02/03/15	190
Methylene Chloride	BDL	1.1	mg/kg	8260B	02/03/15	190
4-Methyl-2-pentanone (MIBK)	BDL	2.3	mg/kg	8260B	02/03/15	190
Methyl tert-butyl ether	BDL	0.23	mg/kg	8260B	02/03/15	190
Naphthalene	22.	1.1	mg/kg	8260B	02/03/15	190
n-Propylbenzene	5.1	0.23	mg/kg	8260B	02/03/15	190
Styrene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1,1,2-Tetrachloroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1,2,2-Tetrachloroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1,2-Trichlorotrifluoroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
Tetrachloroethene	BDL	0.23	mg/kg	8260B	02/03/15	190
Toluene	BDL	1.1	mg/kg	8260B	02/03/15	190
1,2,3-Trichlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,2,4-Trichlorobenzene	BDL	0.23	mg/kg	8260B	02/03/15	190
1,1,1-Trichloroethane	2.2	0.23	mg/kg	8260B	02/03/15	190
1,1,2-Trichloroethane	BDL	0.23	mg/kg	8260B	02/03/15	190
Trichloroethene	120	2.3	mg/kg	8260B	02/04/15	1900
Trichlorofluoromethane	BDL	1.1	mg/kg	8260B	02/03/15	190
1,2,3-Trichloropropane	BDL	0.57	mg/kg	8260B	02/03/15	190
1,2,4-Trimethylbenzene	29.	0.23	mg/kg	8260B	02/03/15	190
1,2,3-Trimethylbenzene	12.	0.23	mg/kg	8260B	02/03/15	190
Vinyl chloride	BDL	0.23	mg/kg	8260B	02/03/15	190
1,3,5-Trimethylbenzene	5.3	0.23	mg/kg	8260B	02/03/15	190
Xylenes, Total	12.	0.69	mg/kg	8260B	02/03/15	190
Surrogate Recovery						
Toluene-d8	97.2		% Rec.	8260B	02/03/15	1
Dibromofluoromethane	90.9		% Rec.	8260B	02/03/15	1
4-Bromofluorobenzene	121.		% Rec.	8260B	02/03/15	1
TPH (GC/FID) High Fraction	14000	240	mg/kg	3546/DR0	02/02/15	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	50

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-1
Collected By : D. Schroder
Collection Date : 01/26/15 09:30

ESC Sample # : L745778-02

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	89.1		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	1.3	mg/kg	8260B	02/03/15	23.25
Acrylonitrile	BDL	0.26	mg/kg	8260B	02/03/15	23.25
Benzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Bromobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Bromodichloromethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Bromoform	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Bromomethane	BDL	0.13	mg/kg	8260B	02/03/15	23.25
n-Butylbenzene	0.52	0.026	mg/kg	8260B	02/03/15	23.25
sec-Butylbenzene	0.35	0.026	mg/kg	8260B	02/03/15	23.25
tert-Butylbenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Carbon tetrachloride	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Chlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Chlorodibromomethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Chloroethane	BDL	0.13	mg/kg	8260B	02/03/15	23.25
2-Chloroethyl vinyl ether	BDL	1.3	mg/kg	8260B	02/03/15	23.25
Chloroform	BDL	0.13	mg/kg	8260B	02/03/15	23.25
Chloromethane	BDL	0.065	mg/kg	8260B	02/03/15	23.25
2-Chlorotoluene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
4-Chlorotoluene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,2-Dibromo-3-Chloropropane	BDL	0.13	mg/kg	8260B	02/03/15	23.25
1,2-Dibromoethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Dibromomethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,2-Dichlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,3-Dichlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,4-Dichlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Dichlorodifluoromethane	BDL	0.13	mg/kg	8260B	02/03/15	23.25
1,1-Dichloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,2-Dichloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1-Dichloroethene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
cis-1,2-Dichloroethene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
trans-1,2-Dichloroethene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,2-Dichloropropane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1-Dichloropropene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,3-Dichloropropene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
cis-1,3-Dichloropropene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
trans-1,3-Dichloropropene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
2,2-Dichloropropane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Di-isopropyl ether	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Ethylbenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Hexachloro-1,3-butadiene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Isopropylbenzene	0.088	0.026	mg/kg	8260B	02/03/15	23.25

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-1
Collected By : D. Schroder
Collection Date : 01/26/15 09:30

ESC Sample # : L745778-02

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	0.29	0.026	mg/kg	8260B	02/03/15	23.25
2-Butanone (MEK)	BDL	0.26	mg/kg	8260B	02/03/15	23.25
Methylene Chloride	BDL	0.13	mg/kg	8260B	02/03/15	23.25
4-Methyl-2-pentanone (MIBK)	BDL	0.26	mg/kg	8260B	02/03/15	23.25
Methyl tert-butyl ether	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Naphthalene	5.4	0.52	mg/kg	8260B	02/04/15	93
n-Propylbenzene	0.20	0.026	mg/kg	8260B	02/03/15	23.25
Styrene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1,1,2-Tetrachloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1,2,2-Tetrachloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1,2-Trichlorotrifluoroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Tetrachloroethene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Toluene	BDL	0.13	mg/kg	8260B	02/03/15	23.25
1,2,3-Trichlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,2,4-Trichlorobenzene	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1,1-Trichloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,1,2-Trichloroethane	BDL	0.026	mg/kg	8260B	02/03/15	23.25
Trichloroethene	0.20	0.026	mg/kg	8260B	02/03/15	23.25
Trichlorofluoromethane	BDL	0.13	mg/kg	8260B	02/03/15	23.25
1,2,3-Trichloropropane	BDL	0.065	mg/kg	8260B	02/03/15	23.25
1,2,4-Trimethylbenzene	2.0	0.026	mg/kg	8260B	02/03/15	23.25
1,2,3-Trimethylbenzene	1.2	0.026	mg/kg	8260B	02/03/15	23.25
Vinyl chloride	BDL	0.026	mg/kg	8260B	02/03/15	23.25
1,3,5-Trimethylbenzene	0.34	0.026	mg/kg	8260B	02/03/15	23.25
Xylenes, Total	0.19	0.078	mg/kg	8260B	02/03/15	23.25
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	02/03/15	1
Dibromofluoromethane	89.5		% Rec.	8260B	02/03/15	1
4-Bromofluorobenzene	106.		% Rec.	8260B	02/03/15	1
TPH (GC/FID) High Fraction	12000	220	mg/kg	3546/DR0	02/02/15	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	50

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-2
Collected By : D. Schroder
Collection Date : 01/26/15 10:30

ESC Sample # : L745778-03

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	94.1		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	1.2	mg/kg	8260B	02/03/15	23
Acrylonitrile	BDL	0.24	mg/kg	8260B	02/03/15	23
Benzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Bromobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Bromodichloromethane	BDL	0.024	mg/kg	8260B	02/03/15	23
Bromoform	BDL	0.024	mg/kg	8260B	02/03/15	23
Bromomethane	BDL	0.12	mg/kg	8260B	02/03/15	23
n-Butylbenzene	0.037	0.024	mg/kg	8260B	02/03/15	23
sec-Butylbenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
tert-Butylbenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Carbon tetrachloride	BDL	0.024	mg/kg	8260B	02/03/15	23
Chlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Chlorodibromomethane	BDL	0.024	mg/kg	8260B	02/03/15	23
Chloroethane	BDL	0.12	mg/kg	8260B	02/03/15	23
2-Chloroethyl vinyl ether	BDL	1.2	mg/kg	8260B	02/03/15	23
Chloroform	BDL	0.12	mg/kg	8260B	02/03/15	23
Chloromethane	BDL	0.061	mg/kg	8260B	02/03/15	23
2-Chlorotoluene	BDL	0.024	mg/kg	8260B	02/03/15	23
4-Chlorotoluene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,2-Dibromo-3-Chloropropane	BDL	0.12	mg/kg	8260B	02/03/15	23
1,2-Dibromoethane	BDL	0.024	mg/kg	8260B	02/03/15	23
Dibromomethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,2-Dichlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,3-Dichlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,4-Dichlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Dichlorodifluoromethane	BDL	0.12	mg/kg	8260B	02/03/15	23
1,1-Dichloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,2-Dichloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1-Dichloroethene	BDL	0.024	mg/kg	8260B	02/03/15	23
cis-1,2-Dichloroethene	BDL	0.024	mg/kg	8260B	02/03/15	23
trans-1,2-Dichloroethene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,2-Dichloropropane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1-Dichloropropene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,3-Dichloropropene	BDL	0.024	mg/kg	8260B	02/03/15	23
cis-1,3-Dichloropropene	BDL	0.024	mg/kg	8260B	02/03/15	23
trans-1,3-Dichloropropene	BDL	0.024	mg/kg	8260B	02/03/15	23
2,2-Dichloropropane	BDL	0.024	mg/kg	8260B	02/03/15	23
Di-isopropyl ether	BDL	0.024	mg/kg	8260B	02/03/15	23
Ethylbenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Hexachloro-1,3-butadiene	BDL	0.024	mg/kg	8260B	02/03/15	23
Isopropylbenzene	BDL	0.024	mg/kg	8260B	02/03/15	23

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-2
Collected By : D. Schroder
Collection Date : 01/26/15 10:30

ESC Sample # : L745778-03

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	BDL	0.024	mg/kg	8260B	02/03/15	23
2-Butanone (MEK)	BDL	0.24	mg/kg	8260B	02/03/15	23
Methylene Chloride	BDL	0.12	mg/kg	8260B	02/03/15	23
4-Methyl-2-pentanone (MIBK)	BDL	0.24	mg/kg	8260B	02/03/15	23
Methyl tert-butyl ether	BDL	0.024	mg/kg	8260B	02/03/15	23
Naphthalene	1.8	0.12	mg/kg	8260B	02/03/15	23
n-Propylbenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
Styrene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1,1,2-Tetrachloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1,2,2-Tetrachloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1,2-Trichlorotrifluoroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
Tetrachloroethene	BDL	0.024	mg/kg	8260B	02/03/15	23
Toluene	BDL	0.12	mg/kg	8260B	02/03/15	23
1,2,3-Trichlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,2,4-Trichlorobenzene	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1,1-Trichloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
1,1,2-Trichloroethane	BDL	0.024	mg/kg	8260B	02/03/15	23
Trichloroethene	0.42	0.024	mg/kg	8260B	02/03/15	23
Trichlorofluoromethane	BDL	0.12	mg/kg	8260B	02/03/15	23
1,2,3-Trichloropropane	BDL	0.061	mg/kg	8260B	02/03/15	23
1,2,4-Trimethylbenzene	0.13	0.024	mg/kg	8260B	02/03/15	23
1,2,3-Trimethylbenzene	0.071	0.024	mg/kg	8260B	02/03/15	23
Vinyl chloride	BDL	0.024	mg/kg	8260B	02/03/15	23
1,3,5-Trimethylbenzene	0.026	0.024	mg/kg	8260B	02/03/15	23
Xylenes, Total	BDL	0.073	mg/kg	8260B	02/03/15	23
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	02/03/15	1
Dibromofluoromethane	89.6		% Rec.	8260B	02/03/15	1
4-Bromofluorobenzene	92.3		% Rec.	8260B	02/03/15	1
TPH (GC/FID) High Fraction	8400	210	mg/kg	3546/DR0	02/02/15	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	50

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-3
Collected By : D. Schroder
Collection Date : 01/26/15 12:45

ESC Sample # : L745778-04

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	98.3		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	1.2	mg/kg	8260B	02/03/15	24.75
Acrylonitrile	BDL	0.25	mg/kg	8260B	02/03/15	24.75
Benzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Bromobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Bromodichloromethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Bromoform	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Bromomethane	BDL	0.12	mg/kg	8260B	02/03/15	24.75
n-Butylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
sec-Butylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
tert-Butylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Carbon tetrachloride	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Chlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Chlorodibromomethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Chloroethane	BDL	0.12	mg/kg	8260B	02/03/15	24.75
2-Chloroethyl vinyl ether	BDL	1.2	mg/kg	8260B	02/03/15	24.75
Chloroform	BDL	0.12	mg/kg	8260B	02/03/15	24.75
Chloromethane	BDL	0.063	mg/kg	8260B	02/03/15	24.75
2-Chlorotoluene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
4-Chlorotoluene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,2-Dibromo-3-Chloropropane	BDL	0.12	mg/kg	8260B	02/03/15	24.75
1,2-Dibromoethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Dibromomethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,2-Dichlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,3-Dichlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,4-Dichlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Dichlorodifluoromethane	BDL	0.12	mg/kg	8260B	02/03/15	24.75
1,1-Dichloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,2-Dichloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1-Dichloroethene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
cis-1,2-Dichloroethene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
trans-1,2-Dichloroethene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,2-Dichloropropane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1-Dichloropropene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,3-Dichloropropene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
cis-1,3-Dichloropropene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
trans-1,3-Dichloropropene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
2,2-Dichloropropane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Di-isopropyl ether	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Ethylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Hexachloro-1,3-butadiene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Isopropylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75

Results listed are dry weight basis.

BDL - Below Detection Limit

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-3
Collected By : D. Schroder
Collection Date : 01/26/15 12:45

ESC Sample # : L745778-04

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
2-Butanone (MEK)	BDL	0.25	mg/kg	8260B	02/03/15	24.75
Methylene Chloride	BDL	0.12	mg/kg	8260B	02/03/15	24.75
4-Methyl-2-pentanone (MIBK)	BDL	0.25	mg/kg	8260B	02/03/15	24.75
Methyl tert-butyl ether	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Naphthalene	0.72	0.12	mg/kg	8260B	02/03/15	24.75
n-Propylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Styrene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1,1,2-Tetrachloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1,2,2-Tetrachloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1,2-Trichlorotrifluoroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Tetrachloroethene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Toluene	BDL	0.12	mg/kg	8260B	02/03/15	24.75
1,2,3-Trichlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,2,4-Trichlorobenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1,1-Trichloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,1,2-Trichloroethane	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Trichloroethene	0.32	0.025	mg/kg	8260B	02/03/15	24.75
Trichlorofluoromethane	BDL	0.12	mg/kg	8260B	02/03/15	24.75
1,2,3-Trichloropropane	BDL	0.063	mg/kg	8260B	02/03/15	24.75
1,2,4-Trimethylbenzene	0.077	0.025	mg/kg	8260B	02/03/15	24.75
1,2,3-Trimethylbenzene	0.032	0.025	mg/kg	8260B	02/03/15	24.75
Vinyl chloride	BDL	0.025	mg/kg	8260B	02/03/15	24.75
1,3,5-Trimethylbenzene	BDL	0.025	mg/kg	8260B	02/03/15	24.75
Xylenes, Total	BDL	0.076	mg/kg	8260B	02/03/15	24.75
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	02/03/15	1
Dibromofluoromethane	89.3		% Rec.	8260B	02/03/15	1
4-Bromofluorobenzene	92.1		% Rec.	8260B	02/03/15	1
TPH (GC/FID) High Fraction	7300	200	mg/kg	3546/DR0	02/02/15	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	50

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-4
Collected By : D. Schroder
Collection Date : 01/26/15 14:20

ESC Sample # : L745778-05

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	99.4		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	1.4	mg/kg	8260B	02/03/15	27.25
Acrylonitrile	BDL	0.27	mg/kg	8260B	02/03/15	27.25
Benzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Bromobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Bromodichloromethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Bromoform	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Bromomethane	BDL	0.14	mg/kg	8260B	02/03/15	27.25
n-Butylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
sec-Butylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
tert-Butylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Carbon tetrachloride	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Chlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Chlorodibromomethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Chloroethane	BDL	0.14	mg/kg	8260B	02/03/15	27.25
2-Chloroethyl vinyl ether	BDL	1.4	mg/kg	8260B	02/03/15	27.25
Chloroform	BDL	0.14	mg/kg	8260B	02/03/15	27.25
Chloromethane	BDL	0.068	mg/kg	8260B	02/03/15	27.25
2-Chlorotoluene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
4-Chlorotoluene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,2-Dibromo-3-Chloropropane	BDL	0.14	mg/kg	8260B	02/03/15	27.25
1,2-Dibromoethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Dibromomethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,2-Dichlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,3-Dichlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,4-Dichlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Dichlorodifluoromethane	BDL	0.14	mg/kg	8260B	02/03/15	27.25
1,1-Dichloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,2-Dichloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1-Dichloroethene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
cis-1,2-Dichloroethene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
trans-1,2-Dichloroethene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,2-Dichloropropane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1-Dichloropropene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,3-Dichloropropene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
cis-1,3-Dichloropropene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
trans-1,3-Dichloropropene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
2,2-Dichloropropane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Di-isopropyl ether	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Ethylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Hexachloro-1,3-butadiene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Isopropylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25

Results listed are dry weight basis.

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-4
Collected By : D. Schroder
Collection Date : 01/26/15 14:20

ESC Sample # : L745778-05

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
2-Butanone (MEK)	BDL	0.27	mg/kg	8260B	02/03/15	27.25
Methylene Chloride	BDL	0.14	mg/kg	8260B	02/03/15	27.25
4-Methyl-2-pentanone (MIBK)	BDL	0.27	mg/kg	8260B	02/03/15	27.25
Methyl tert-butyl ether	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Naphthalene	BDL	0.14	mg/kg	8260B	02/03/15	27.25
n-Propylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Styrene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1,1,2-Tetrachloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1,2,2-Tetrachloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1,2-Trichlorotrifluoroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Tetrachloroethene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Toluene	BDL	0.14	mg/kg	8260B	02/03/15	27.25
1,2,3-Trichlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,2,4-Trichlorobenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1,1-Trichloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,1,2-Trichloroethane	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Trichloroethene	0.11	0.027	mg/kg	8260B	02/03/15	27.25
Trichlorofluoromethane	BDL	0.14	mg/kg	8260B	02/03/15	27.25
1,2,3-Trichloropropane	BDL	0.068	mg/kg	8260B	02/03/15	27.25
1,2,4-Trimethylbenzene	0.055	0.027	mg/kg	8260B	02/03/15	27.25
1,2,3-Trimethylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Vinyl chloride	BDL	0.027	mg/kg	8260B	02/03/15	27.25
1,3,5-Trimethylbenzene	BDL	0.027	mg/kg	8260B	02/03/15	27.25
Xylenes, Total	BDL	0.082	mg/kg	8260B	02/03/15	27.25
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	02/03/15	1
Dibromofluoromethane	86.5		% Rec.	8260B	02/03/15	1
4-Bromofluorobenzene	95.2		% Rec.	8260B	02/03/15	1
TPH (GC/FID) High Fraction	5400	80.	mg/kg	3546/DR0	02/02/15	20
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	20

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-5
Collected By : D. Schroder
Collection Date : 01/26/15 15:00

ESC Sample # : L745778-06

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	83.2		%	2540 G-2011	01/30/15	1
Volatile Organics						
Acetone	BDL	10.	mg/kg	8260B	02/04/15	170
Acrylonitrile	BDL	2.0	mg/kg	8260B	02/04/15	170
Benzene	BDL	0.20	mg/kg	8260B	02/04/15	170
Bromobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
Bromodichloromethane	BDL	0.20	mg/kg	8260B	02/04/15	170
Bromoform	BDL	0.20	mg/kg	8260B	02/04/15	170
Bromomethane	BDL	1.0	mg/kg	8260B	02/04/15	170
n-Butylbenzene	3.7	0.20	mg/kg	8260B	02/04/15	170
sec-Butylbenzene	4.0	0.20	mg/kg	8260B	02/04/15	170
tert-Butylbenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
Carbon tetrachloride	BDL	0.20	mg/kg	8260B	02/04/15	170
Chlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
Chlorodibromomethane	BDL	0.20	mg/kg	8260B	02/04/15	170
Chloroethane	BDL	1.0	mg/kg	8260B	02/04/15	170
2-Chloroethyl vinyl ether	BDL	10.	mg/kg	8260B	02/04/15	170
Chloroform	BDL	1.0	mg/kg	8260B	02/04/15	170
Chloromethane	BDL	0.51	mg/kg	8260B	02/04/15	170
2-Chlorotoluene	BDL	0.20	mg/kg	8260B	02/04/15	170
4-Chlorotoluene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,2-Dibromo-3-Chloropropane	BDL	1.0	mg/kg	8260B	02/04/15	170
1,2-Dibromoethane	BDL	0.20	mg/kg	8260B	02/04/15	170
Dibromomethane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,2-Dichlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,3-Dichlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,4-Dichlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
Dichlorodifluoromethane	BDL	1.0	mg/kg	8260B	02/04/15	170
1,1-Dichloroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,2-Dichloroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1-Dichloroethene	BDL	0.20	mg/kg	8260B	02/04/15	170
cis-1,2-Dichloroethene	BDL	0.20	mg/kg	8260B	02/04/15	170
trans-1,2-Dichloroethene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,2-Dichloropropane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1-Dichloropropene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,3-Dichloropropene	BDL	0.20	mg/kg	8260B	02/04/15	170
cis-1,3-Dichloropropene	BDL	0.20	mg/kg	8260B	02/04/15	170
trans-1,3-Dichloropropene	BDL	0.20	mg/kg	8260B	02/04/15	170
2,2-Dichloropropane	BDL	0.20	mg/kg	8260B	02/04/15	170
Di-isopropyl ether	BDL	0.20	mg/kg	8260B	02/04/15	170
Ethylbenzene	1.6	0.20	mg/kg	8260B	02/04/15	170
Hexachloro-1,3-butadiene	BDL	0.20	mg/kg	8260B	02/04/15	170
Isopropylbenzene	2.9	0.20	mg/kg	8260B	02/04/15	170

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-5
Collected By : D. Schroder
Collection Date : 01/26/15 15:00

ESC Sample # : L745778-06

Site ID :

Project # : 213202182

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
p-Isopropyltoluene	2.8	0.20	mg/kg	8260B	02/04/15	170
2-Butanone (MEK)	BDL	2.0	mg/kg	8260B	02/04/15	170
Methylene Chloride	BDL	1.0	mg/kg	8260B	02/04/15	170
4-Methyl-2-pentanone (MIBK)	BDL	2.0	mg/kg	8260B	02/04/15	170
Methyl tert-butyl ether	BDL	0.20	mg/kg	8260B	02/04/15	170
Naphthalene	19.	1.0	mg/kg	8260B	02/04/15	170
n-Propylbenzene	4.6	0.20	mg/kg	8260B	02/04/15	170
Styrene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1,1,2-Tetrachloroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1,2,2-Tetrachloroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1,2-Trichlorotrifluoroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
Tetrachloroethene	BDL	0.20	mg/kg	8260B	02/04/15	170
Toluene	BDL	1.0	mg/kg	8260B	02/04/15	170
1,2,3-Trichlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,2,4-Trichlorobenzene	BDL	0.20	mg/kg	8260B	02/04/15	170
1,1,1-Trichloroethane	1.7	0.20	mg/kg	8260B	02/04/15	170
1,1,2-Trichloroethane	BDL	0.20	mg/kg	8260B	02/04/15	170
Trichloroethene	110	2.0	mg/kg	8260B	02/04/15	1700
Trichlorofluoromethane	BDL	1.0	mg/kg	8260B	02/04/15	170
1,2,3-Trichloropropane	BDL	0.51	mg/kg	8260B	02/04/15	170
1,2,4-Trimethylbenzene	25.	0.20	mg/kg	8260B	02/04/15	170
1,2,3-Trimethylbenzene	11.	0.20	mg/kg	8260B	02/04/15	170
Vinyl chloride	BDL	0.20	mg/kg	8260B	02/04/15	170
1,3,5-Trimethylbenzene	4.9	0.20	mg/kg	8260B	02/04/15	170
Xylenes, Total	12.	0.61	mg/kg	8260B	02/04/15	170
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	02/04/15	1
Dibromofluoromethane	88.5		% Rec.	8260B	02/04/15	1
4-Bromofluorobenzene	116.		% Rec.	8260B	02/04/15	1
TPH (GC/FID) High Fraction	16000	480	mg/kg	3546/DR0	02/02/15	100
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	3546/DR0	02/02/15	100

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

February 05, 2015

Date Received : January 28, 2015
Description : Treatability - Asheville, NC
Sample ID : 42-0
Collected By : D. Schroder
Collection Date : 01/26/15 09:00

ESC Sample # : L745778-07

Site ID :

Project # : 213202182

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TOC (Total Organic Carbon)	3600	10.	mg/kg	USDA LOI	02/03/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L745778-01	WG767312	SAMP	o-Terphenyl	R3017728	J7
L745778-02	WG767312	SAMP	o-Terphenyl	R3017728	J7
L745778-03	WG767312	SAMP	o-Terphenyl	R3017728	J7
L745778-04	WG767312	SAMP	o-Terphenyl	R3017728	J7
L745778-05	WG767312	SAMP	o-Terphenyl	R3017728	J7
L745778-06	WG767312	SAMP	o-Terphenyl	R3017728	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Est. 1970

Quality Assurance Report
Level II

Sylvania, OH 43560

February 05, 2015

L745778

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Total Solids	< .1	%			WG767469	01/30/15 07:48
TPH (GC/FID) High Fraction	< 4	mg/kg			WG767312	02/01/15 09:33
o-Terphenyl		% Rec.	70.60	50-150	WG767312	02/01/15 09:33
TOC (Total Organic Carbon)	< 10	mg/kg			WG768046	02/03/15 15:08
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1,1-Trichloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1,2-Trichloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1,2-Trichlorotrifluoroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1-Dichloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,1-Dichloroethene	< .001	mg/kg			WG767335	02/03/15 19:53
1,1-Dichloropropene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2,3-Trichlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2,3-Trichloropropane	< .0025	mg/kg			WG767335	02/03/15 19:53
1,2,3-Trimethylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2,4-Trichlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2,4-Trimethylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG767335	02/03/15 19:53
1,2-Dibromoethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,2-Dichlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,2-Dichloroethane	< .001	mg/kg			WG767335	02/03/15 19:53
1,2-Dichloropropene	< .001	mg/kg			WG767335	02/03/15 19:53
1,3,5-Trimethylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,3-Dichlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
1,3-Dichloropropane	< .001	mg/kg			WG767335	02/03/15 19:53
1,4-Dichlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
2,2-Dichloropropane	< .001	mg/kg			WG767335	02/03/15 19:53
2-Butanone (MEK)	< .01	mg/kg			WG767335	02/03/15 19:53
2-Chloroethyl vinyl ether	< .05	mg/kg			WG767335	02/03/15 19:53
2-Chlorotoluene	< .001	mg/kg			WG767335	02/03/15 19:53
4-Chlorotoluene	< .001	mg/kg			WG767335	02/03/15 19:53
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG767335	02/03/15 19:53
Acetone	< .05	mg/kg			WG767335	02/03/15 19:53
Acrylonitrile	< .01	mg/kg			WG767335	02/03/15 19:53
Benzene	< .001	mg/kg			WG767335	02/03/15 19:53
Bromobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Bromodichloromethane	< .001	mg/kg			WG767335	02/03/15 19:53
Bromoform	< .001	mg/kg			WG767335	02/03/15 19:53
Bromomethane	< .005	mg/kg			WG767335	02/03/15 19:53
Carbon tetrachloride	< .001	mg/kg			WG767335	02/03/15 19:53
Chlorobenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Chlorodibromomethane	< .001	mg/kg			WG767335	02/03/15 19:53
Chloroethane	< .005	mg/kg			WG767335	02/03/15 19:53
Chloroform	< .005	mg/kg			WG767335	02/03/15 19:53
Chloromethane	< .0025	mg/kg			WG767335	02/03/15 19:53
cis-1,2-Dichloroethene	< .001	mg/kg			WG767335	02/03/15 19:53
cis-1,3-Dichloropropene	< .001	mg/kg			WG767335	02/03/15 19:53
Di-isopropyl ether	< .001	mg/kg			WG767335	02/03/15 19:53
Dibromomethane	< .001	mg/kg			WG767335	02/03/15 19:53
Dichlorodifluoromethane	< .005	mg/kg			WG767335	02/03/15 19:53
Ethylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Hexachloro-1,3-butadiene	< .001	mg/kg			WG767335	02/03/15 19:53
Isopropylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53

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Est. 1970

Quality Assurance Report
Level II

February 05, 2015

L745778

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Methyl tert-butyl ether	< .001	mg/kg			WG767335	02/03/15 19:53
Methylene Chloride	< .005	mg/kg			WG767335	02/03/15 19:53
n-Butylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
n-Propylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Naphthalene	< .005	mg/kg			WG767335	02/03/15 19:53
p-Isopropyltoluene	< .001	mg/kg			WG767335	02/03/15 19:53
sec-Butylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Styrene	< .001	mg/kg			WG767335	02/03/15 19:53
tert-Butylbenzene	< .001	mg/kg			WG767335	02/03/15 19:53
Tetrachloroethene	< .001	mg/kg			WG767335	02/03/15 19:53
Toluene	< .005	mg/kg			WG767335	02/03/15 19:53
trans-1,2-Dichloroethene	< .001	mg/kg			WG767335	02/03/15 19:53
trans-1,3-Dichloropropene	< .001	mg/kg			WG767335	02/03/15 19:53
Trichloroethene	< .001	mg/kg			WG767335	02/03/15 19:53
Trichlorofluoromethane	< .005	mg/kg			WG767335	02/03/15 19:53
Vinyl chloride	< .001	mg/kg			WG767335	02/03/15 19:53
Xylenes, Total	< .003	mg/kg			WG767335	02/03/15 19:53
4-Bromofluorobenzene		% Rec.	89.40	71-126	WG767335	02/03/15 19:53
Dibromofluoromethane		% Rec.	94.30	78.3-121	WG767335	02/03/15 19:53
Toluene-d8		% Rec.	103.0	88.5-111	WG767335	02/03/15 19:53
Naphthalene	< .005	mg/kg			WG767887	02/04/15 12:17
Trichloroethene	< .001	mg/kg			WG767887	02/04/15 12:17
4-Bromofluorobenzene		% Rec.	103.0	71-126	WG767887	02/04/15 12:17
Dibromofluoromethane		% Rec.	97.80	78.3-121	WG767887	02/04/15 12:17
Toluene-d8		% Rec.	98.20	88.5-111	WG767887	02/04/15 12:17

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Total Solids	%	82.8	83.3	0.566	5	L745778-06	WG767469
TOC (Total Organic Carbon)	mg/kg	3730	3640	2.61	20	L745778-07	WG768046

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Total Solids	%	50	50.0	100.	85-115	WG767469
TPH (GC/FID) High Fraction	mg/kg	60	43.2	72.0	50-150	WG767312
o-Terphenyl				64.30	50-150	WG767312
TOC (Total Organic Carbon)	mg/kg	4620	4580	99.1	50-150	WG768046
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0258	103.	72.9-124	WG767335
1,1,1-Trichloroethane	mg/kg	.025	0.0218	87.1	73.7-124	WG767335
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0229	91.7	69.4-122	WG767335
1,1,2-Trichloroethane	mg/kg	.025	0.0246	98.2	79.1-118	WG767335
1,1,2-Trichlorotrifluoroethane	mg/kg	.025	0.0253	101.	70-146	WG767335
1,1-Dichloroethane	mg/kg	.025	0.0247	99.0	75-124	WG767335
1,1-Dichloroethene	mg/kg	.025	0.0243	97.4	70.4-129	WG767335
1,1-Dichloropropene	mg/kg	.025	0.0234	93.8	74.9-124	WG767335
1,2,3-Trichlorobenzene	mg/kg	.025	0.0228	91.4	69.3-131	WG767335
1,2,3-Trichloropropane	mg/kg	.025	0.0231	92.4	71.4-123	WG767335

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,2,3-Trimethylbenzene	mg/kg	.025	0.0224	89.6	73.6-113	WG767335
1,2,4-Trichlorobenzene	mg/kg	.025	0.0231	92.4	71.9-137	WG767335
1,2,4-Trimethylbenzene	mg/kg	.025	0.0241	96.3	75.5-122	WG767335
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0187	74.8	62.8-133	WG767335
1,2-Dibromoethane	mg/kg	.025	0.0236	94.6	78.6-120	WG767335
1,2-Dichlorobenzene	mg/kg	.025	0.0232	92.8	78.3-118	WG767335
1,2-Dichloroethane	mg/kg	.025	0.0217	86.7	70.1-124	WG767335
1,2-Dichloropropane	mg/kg	.025	0.0263	105.	77.9-119	WG767335
1,3,5-Trimethylbenzene	mg/kg	.025	0.0248	99.3	75.9-124	WG767335
1,3-Dichlorobenzene	mg/kg	.025	0.0258	103.	72-126	WG767335
1,3-Dichloropropane	mg/kg	.025	0.0243	97.2	79.1-117	WG767335
1,4-Dichlorobenzene	mg/kg	.025	0.0236	94.4	78.3-117	WG767335
2,2-Dichloropropane	mg/kg	.025	0.0230	91.9	61.3-136	WG767335
2-Butanone (MEK)	mg/kg	.125	0.159	127.	53.7-153	WG767335
2-Chloroethyl vinyl ether	mg/kg	.125	0.114	90.9	37.7-157	WG767335
2-Chlorotoluene	mg/kg	.025	0.0254	101.	75.6-121	WG767335
4-Chlorotoluene	mg/kg	.025	0.0239	95.7	77.3-120	WG767335
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.116	92.8	70.4-137	WG767335
Acetone	mg/kg	.125	0.202	161.	35.1-175	WG767335
Acrylonitrile	mg/kg	.125	0.114	91.6	56.4-128	WG767335
Benzene	mg/kg	.025	0.0245	98.0	77.1-121	WG767335
Bromobenzene	mg/kg	.025	0.0237	94.8	78.2-115	WG767335
Bromodichloromethane	mg/kg	.025	0.0230	91.9	74.9-115	WG767335
Bromoform	mg/kg	.025	0.0247	98.7	65.9-132	WG767335
Bromomethane	mg/kg	.025	0.0342	137.	48.7-165	WG767335
Carbon tetrachloride	mg/kg	.025	0.0219	87.5	70-124	WG767335
Chlorobenzene	mg/kg	.025	0.0260	104.	79.1-119	WG767335
Chlorodibromomethane	mg/kg	.025	0.0244	97.6	73.5-121	WG767335
Chloroethane	mg/kg	.025	0.0268	107.	66.2-132	WG767335
Chloroform	mg/kg	.025	0.0229	91.7	76.7-122	WG767335
Chloromethane	mg/kg	.025	0.0244	97.6	63.4-131	WG767335
cis-1,2-Dichloroethene	mg/kg	.025	0.0242	96.8	78.2-119	WG767335
cis-1,3-Dichloropropene	mg/kg	.025	0.0250	100.	79.6-120	WG767335
Di-isopropyl ether	mg/kg	.025	0.0242	96.8	70.4-133	WG767335
Dibromomethane	mg/kg	.025	0.0245	98.0	79.4-120	WG767335
Dichlorodifluoromethane	mg/kg	.025	0.0203	81.2	57.1-137	WG767335
Ethylbenzene	mg/kg	.025	0.0247	98.7	79.7-122	WG767335
Hexachloro-1,3-butadiene	mg/kg	.025	0.0230	92.1	68.2-123	WG767335
Isopropylbenzene	mg/kg	.025	0.0246	98.2	80-135	WG767335
Methyl tert-butyl ether	mg/kg	.025	0.0225	90.0	73-129	WG767335
Methylene Chloride	mg/kg	.025	0.0230	92.2	72.6-120	WG767335
n-Butylbenzene	mg/kg	.025	0.0223	89.2	77.5-126	WG767335
n-Propylbenzene	mg/kg	.025	0.0245	98.0	77.9-123	WG767335
Naphthalene	mg/kg	.025	0.0193	77.3	69.8-128	WG767335
p-Isopropyltoluene	mg/kg	.025	0.0250	100.	75.8-129	WG767335
sec-Butylbenzene	mg/kg	.025	0.0244	97.8	75.8-126	WG767335
Styrene	mg/kg	.025	0.0265	106.	82.4-126	WG767335
tert-Butylbenzene	mg/kg	.025	0.0247	98.6	76.4-126	WG767335
Tetrachloroethene	mg/kg	.025	0.0258	103.	73.9-125	WG767335
Toluene	mg/kg	.025	0.0244	97.6	79.7-118	WG767335
trans-1,2-Dichloroethene	mg/kg	.025	0.0230	91.9	73.8-122	WG767335
trans-1,3-Dichloropropene	mg/kg	.025	0.0246	98.5	75.9-124	WG767335
Trichloroethene	mg/kg	.025	0.0251	100.	77.9-118	WG767335
Trichlorofluoromethane	mg/kg	.025	0.0285	114.	67.7-131	WG767335
Vinyl chloride	mg/kg	.025	0.0252	101.	66.7-130	WG767335
Xylenes, Total	mg/kg	.075	0.0759	101.	78.8-121	WG767335
4-Bromofluorobenzene				95.10	71-126	WG767335
Dibromofluoromethane				91.60	78.3-121	WG767335
Toluene-d8				103.0	88.5-111	WG767335

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Level II

February 05, 2015

L745778

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Naphthalene	mg/kg	.025	0.0245	97.8	69.8-128	WG767887
Trichloroethene	mg/kg	.025	0.0248	99.3	77.9-118	WG767887
4-Bromofluorobenzene				108.0	71-126	WG767887
Dibromofluoromethane				100.0	78.3-121	WG767887
Toluene-d8				99.70	88.5-111	WG767887

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TPH (GC/FID) High Fraction	mg/kg	42.4	43.2	71.0	50-150	1.91	20	WG767312
o-Terphenyl				63.70	50-150			WG767312
TOC (Total Organic Carbon)	mg/kg	4560	4580	99.0	50-150	0.386	20	WG768046
1,1,1,2-Tetrachloroethane	mg/kg	0.0256	0.0258	102.	72.9-124	0.810	20	WG767335
1,1,1-Trichloroethane	mg/kg	0.0218	0.0218	87.0	73.7-124	0.230	20	WG767335
1,1,2,2-Tetrachloroethane	mg/kg	0.0224	0.0229	90.0	69.4-122	2.33	20	WG767335
1,1,2-Trichloroethane	mg/kg	0.0240	0.0246	96.0	79.1-118	2.16	20	WG767335
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0245	0.0253	98.0	70-146	3.29	20	WG767335
1,1-Dichloroethane	mg/kg	0.0245	0.0247	98.0	75-124	1.06	20	WG767335
1,1-Dichloroethene	mg/kg	0.0234	0.0243	94.0	70.4-129	4.04	20	WG767335
1,1-Dichloropropene	mg/kg	0.0228	0.0234	91.0	74.9-124	2.74	20	WG767335
1,2,3-Trichlorobenzene	mg/kg	0.0245	0.0228	98.0	69.3-131	7.06	20	WG767335
1,2,3-Trichloropropane	mg/kg	0.0229	0.0231	92.0	71.4-123	0.620	20	WG767335
1,2,3-Trimethylbenzene	mg/kg	0.0232	0.0224	93.0	73.6-113	3.28	20	WG767335
1,2,4-Trichlorobenzene	mg/kg	0.0242	0.0231	97.0	71.9-137	4.82	20	WG767335
1,2,4-Trimethylbenzene	mg/kg	0.0235	0.0241	94.0	75.5-122	2.56	20	WG767335
1,2-Dibromo-3-Chloropropane	mg/kg	0.0201	0.0187	80.0	62.8-133	7.09	20	WG767335
1,2-Dibromoethane	mg/kg	0.0243	0.0236	97.0	78.6-120	2.65	20	WG767335
1,2-Dichlorobenzene	mg/kg	0.0239	0.0232	96.0	78.3-118	3.08	20	WG767335
1,2-Dichloroethane	mg/kg	0.0218	0.0217	87.0	70.1-124	0.790	20	WG767335
1,2-Dichloropropane	mg/kg	0.0263	0.0263	105.	77.9-119	0.170	20	WG767335
1,3,5-Trimethylbenzene	mg/kg	0.0241	0.0248	96.0	75.9-124	3.10	20	WG767335
1,3-Dichlorobenzene	mg/kg	0.0255	0.0258	102.	72-126	1.18	20	WG767335
1,3-Dichloropropane	mg/kg	0.0242	0.0243	97.0	79.1-117	0.270	20	WG767335
1,4-Dichlorobenzene	mg/kg	0.0241	0.0236	96.0	78.3-117	2.05	20	WG767335
2,2-Dichloropropane	mg/kg	0.0240	0.0230	96.0	61.3-136	4.55	20	WG767335
2-Butanone (MEK)	mg/kg	0.152	0.159	122.	53.7-153	4.43	21.2	WG767335
2-Chloroethyl vinyl ether	mg/kg	0.109	0.114	88.0	37.7-157	3.71	20	WG767335
2-Chlorotoluene	mg/kg	0.0249	0.0254	100.	75.6-121	1.65	20	WG767335
4-Chlorotoluene	mg/kg	0.0233	0.0239	93.0	77.3-120	2.54	20	WG767335
4-Methyl-2-pentanone (MIBK)	mg/kg	0.117	0.116	93.0	70.4-137	0.400	20	WG767335
Acetone	mg/kg	0.205	0.202	164.	35.1-175	1.60	26.1	WG767335
Acrylonitrile	mg/kg	0.115	0.114	92.0	56.4-128	0.240	20	WG767335
Benzene	mg/kg	0.0245	0.0245	98.0	77.1-121	0.0100	20	WG767335
Bromobenzene	mg/kg	0.0235	0.0237	94.0	78.2-115	0.960	20	WG767335
Bromodichloromethane	mg/kg	0.0235	0.0230	94.0	74.9-115	2.21	20	WG767335
Bromoform	mg/kg	0.0255	0.0247	102.	65.9-132	3.30	20	WG767335
Bromomethane	mg/kg	0.0351	0.0342	140.	48.7-165	2.62	20	WG767335
Carbon tetrachloride	mg/kg	0.0217	0.0219	87.0	70-124	0.950	20	WG767335
Chlorobenzene	mg/kg	0.0258	0.0260	103.	79.1-119	0.650	20	WG767335
Chlorodibromomethane	mg/kg	0.0244	0.0244	98.0	73.5-121	0.160	20	WG767335
Chloroethane	mg/kg	0.0269	0.0268	107.	66.2-132	0.130	20	WG767335
Chloroform	mg/kg	0.0227	0.0229	91.0	76.7-122	0.970	20	WG767335
Chloromethane	mg/kg	0.0239	0.0244	96.0	63.4-131	2.07	20	WG767335
cis-1,2-Dichloroethene	mg/kg	0.0242	0.0242	97.0	78.2-119	0.230	20	WG767335
cis-1,3-Dichloropropene	mg/kg	0.0254	0.0250	102.	79.6-120	1.62	20	WG767335

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Di-isopropyl ether	mg/kg	0.0244	0.0242	98.0	70.4-133	0.900	20	WG767335
Dibromomethane	mg/kg	0.0245	0.0245	98.0	79.4-120	0.0100	20	WG767335
Dichlorodifluoromethane	mg/kg	0.0200	0.0203	80.0	57.1-137	1.60	20	WG767335
Ethylbenzene	mg/kg	0.0240	0.0247	96.0	79.7-122	2.75	20	WG767335
Hexachloro-1,3-butadiene	mg/kg	0.0244	0.0230	98.0	68.2-123	5.79	20	WG767335
Isopropylbenzene	mg/kg	0.0239	0.0246	96.0	80-135	2.58	20	WG767335
Methyl tert-butyl ether	mg/kg	0.0222	0.0225	89.0	73-129	1.14	20	WG767335
Methylene Chloride	mg/kg	0.0234	0.0230	94.0	72.6-120	1.67	20	WG767335
n-Butylbenzene	mg/kg	0.0225	0.0223	90.0	77.5-126	0.750	20	WG767335
n-Propylbenzene	mg/kg	0.0236	0.0245	94.0	77.9-123	3.65	20	WG767335
Naphthalene	mg/kg	0.0204	0.0193	82.0	69.8-128	5.39	20	WG767335
p-Isopropyltoluene	mg/kg	0.0240	0.0250	96.0	75.8-129	4.23	20	WG767335
sec-Butylbenzene	mg/kg	0.0239	0.0244	96.0	75.8-126	2.19	20	WG767335
Styrene	mg/kg	0.0258	0.0265	103.	82.4-126	2.52	20	WG767335
tert-Butylbenzene	mg/kg	0.0238	0.0247	95.0	76.4-126	3.55	20	WG767335
Tetrachloroethene	mg/kg	0.0258	0.0258	103.	73.9-125	0.260	20	WG767335
Toluene	mg/kg	0.0240	0.0244	96.0	79.7-118	1.68	20	WG767335
trans-1,2-Dichloroethene	mg/kg	0.0227	0.0230	91.0	73.8-122	1.34	20	WG767335
trans-1,3-Dichloropropene	mg/kg	0.0251	0.0246	100.	75.9-124	1.92	20	WG767335
Trichloroethene	mg/kg	0.0251	0.0251	100.	77.9-118	0.0600	20	WG767335
Trichlorofluoromethane	mg/kg	0.0282	0.0285	113.	67.7-131	1.26	20	WG767335
Vinyl chloride	mg/kg	0.0248	0.0252	99.0	66.7-130	1.44	20	WG767335
Xylenes, Total	mg/kg	0.0740	0.0759	99.0	78.8-121	2.49	20	WG767335
4-Bromofluorobenzene				92.50	71-126			WG767335
Dibromofluoromethane				93.40	78.3-121			WG767335
Toluene-d8				103.0	88.5-111			WG767335
Naphthalene	mg/kg	0.0239	0.0245	96.0	69.8-128	2.25	20	WG767887
Trichloroethene	mg/kg	0.0252	0.0248	101.	77.9-118	1.57	20	WG767887
4-Bromofluorobenzene				108.0	71-126			WG767887
Dibromofluoromethane				101.0	78.3-121			WG767887
Toluene-d8				100.0	88.5-111			WG767887

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
TPH (GC/FID) High Fraction	mg/kg	45.2	1.02	60	74.0	50-150	L745812-01	WG767312
o-Terphenyl					70.20	50-150		WG767312
1,1,1,2-Tetrachloroethane	mg/kg	0.120	0.0	.025	96.0	64-128	L745812-01	WG767335
1,1,1-Trichloroethane	mg/kg	0.119	0.0	.025	95.0	58.7-134	L745812-01	WG767335
1,1,2,2-Tetrachloroethane	mg/kg	0.104	0.0	.025	83.0	56-132	L745812-01	WG767335
1,1,2-Trichloroethane	mg/kg	0.114	0.0	.025	91.0	66.3-125	L745812-01	WG767335
1,1,2-Trichlorotrifluoroethane	mg/kg	0.138	0.0	.025	110.	54.8-154	L745812-01	WG767335
1,1-Dichloroethane	mg/kg	0.126	0.0	.025	100.	58.5-132	L745812-01	WG767335
1,1-Dichloroethene	mg/kg	0.132	0.0	.025	100.	51.1-140	L745812-01	WG767335
1,1-Dichloropropene	mg/kg	0.122	0.0	.025	98.0	57.3-136	L745812-01	WG767335
1,2,3-Trichlorobenzene	mg/kg	0.0905	0.00112	.025	72.0	59.1-138	L745812-01	WG767335
1,2,3-Trichloropropane	mg/kg	0.104	0.0	.025	83.0	61.4-128	L745812-01	WG767335
1,2,3-Trimethylbenzene	mg/kg	0.104	0.000430	.025	83.0	61.3-122	L745812-01	WG767335
1,2,4-Trichlorobenzene	mg/kg	0.0925	0.00102	.025	73.0	63.6-143	L745812-01	WG767335
1,2,4-Trimethylbenzene	mg/kg	0.105	0.000534	.025	83.0	57.4-137	L745812-01	WG767335
1,2-Dibromo-3-Chloropropane	mg/kg	0.0884	0.0	.025	71.0	57.3-136	L745812-01	WG767335
1,2-Dibromoethane	mg/kg	0.109	0.0	.025	87.0	67.1-125	L745812-01	WG767335
1,2-Dichlorobenzene	mg/kg	0.101	0.000326	.025	81.0	68.2-123	L745812-01	WG767335
1,2-Dichloroethane	mg/kg	0.104	0.0	.025	84.0	60-126	L745812-01	WG767335
1,2-Dichloropropane	mg/kg	0.126	0.0	.025	100.	64.2-123	L745812-01	WG767335

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1,3,5-Trimethylbenzene	mg/kg	0.110	0.000347	.025	87.0	63.6-132	L745812-01	WG767335
1,3-Dichlorobenzene	mg/kg	0.108	0.000364	.025	86.0	63.1-131	L745812-01	WG767335
1,3-Dichloropropane	mg/kg	0.113	0.0	.025	91.0	67.9-121	L745812-01	WG767335
1,4-Dichlorobenzene	mg/kg	0.103	0.0	.025	82.0	68.6-123	L745812-01	WG767335
2,2-Dichloropropane	mg/kg	0.135	0.0	.025	110.	50.5-144	L745812-01	WG767335
2-Butanone (MEK)	mg/kg	0.730	0.0	.125	120.	22.4-138	L745812-01	WG767335
2-Chloroethyl vinyl ether	mg/kg	0.533	0.0	.125	85.0	10-155	L745812-01	WG767335
2-Chlorotoluene	mg/kg	0.115	0.0	.025	92.0	63.6-128	L745812-01	WG767335
4-Chlorotoluene	mg/kg	0.102	0.0	.025	82.0	65.7-127	L745812-01	WG767335
4-Methyl-2-pentanone (MIBK)	mg/kg	0.545	0.0	.125	87.0	60.8-140	L745812-01	WG767335
Acetone	mg/kg	0.960	0.00669	.125	150.*	10-130	L745812-01	WG767335
Acrylonitrile	mg/kg	0.557	0.0	.125	89.0	49.4-133	L745812-01	WG767335
Benzene	mg/kg	0.123	0.000321	.025	98.0	54.3-133	L745812-01	WG767335
Bromobenzene	mg/kg	0.104	0.0	.025	83.0	63.9-124	L745812-01	WG767335
Bromodichloromethane	mg/kg	0.109	0.0	.025	87.0	63.9-121	L745812-01	WG767335
Bromoform	mg/kg	0.117	0.0	.025	93.0	59.5-134	L745812-01	WG767335
Bromomethane	mg/kg	0.184	0.0	.025	150.	41.7-155	L745812-01	WG767335
Carbon tetrachloride	mg/kg	0.122	0.0	.025	97.0	55.7-134	L745812-01	WG767335
Chlorobenzene	mg/kg	0.118	0.0	.025	94.0	67-125	L745812-01	WG767335
Chlorodibromomethane	mg/kg	0.113	0.0	.025	91.0	64.3-125	L745812-01	WG767335
Chloroethane	mg/kg	0.144	0.0	.025	120.	51.5-136	L745812-01	WG767335
Chloroform	mg/kg	0.114	0.0	.025	91.0	63-129	L745812-01	WG767335
Chloromethane	mg/kg	0.133	0.0	.025	110.	42.4-135	L745812-01	WG767335
cis-1,2-Dichloroethene	mg/kg	0.120	0.0	.025	96.0	59.2-129	L745812-01	WG767335
cis-1,3-Dichloropropene	mg/kg	0.116	0.0	.025	93.0	66.4-125	L745812-01	WG767335
Di-isopropyl ether	mg/kg	0.120	0.0	.025	96.0	56.9-136	L745812-01	WG767335
Dibromomethane	mg/kg	0.113	0.0	.025	90.0	68.2-124	L745812-01	WG767335
Dichlorodifluoromethane	mg/kg	0.116	0.0	.025	93.0	40.6-144	L745812-01	WG767335
Ethylbenzene	mg/kg	0.116	0.0	.025	92.0	61.4-133	L745812-01	WG767335
Hexachloro-1,3-butadiene	mg/kg	0.0976	0.0	.025	78.0	55.1-136	L745812-01	WG767335
Isopropylbenzene	mg/kg	0.115	0.0	.025	92.0	66.8-141	L745812-01	WG767335
Methyl tert-butyl ether	mg/kg	0.108	0.0	.025	86.0	57.7-134	L745812-01	WG767335
Methylene Chloride	mg/kg	0.119	0.0	.025	95.0	58.1-122	L745812-01	WG767335
n-Butylbenzene	mg/kg	0.0960	0.000774	.025	76.0	62.7-140	L745812-01	WG767335
n-Propylbenzene	mg/kg	0.110	0.0	.025	88.0	10-176	L745812-01	WG767335
Naphthalene	mg/kg	0.0810	0.00129	.025	64.0	58-135	L745812-01	WG767335
p-Isopropyltoluene	mg/kg	0.107	0.000399	.025	86.0	63.2-139	L745812-01	WG767335
sec-Butylbenzene	mg/kg	0.110	0.000413	.025	88.0	62.2-136	L745812-01	WG767335
Styrene	mg/kg	0.116	0.0	.025	93.0	66.8-133	L745812-01	WG767335
tert-Butylbenzene	mg/kg	0.113	0.0	.025	91.0	63.3-134	L745812-01	WG767335
Tetrachloroethene	mg/kg	0.127	0.0	.025	100.	53-139	L745812-01	WG767335
Toluene	mg/kg	0.119	0.000563	.025	95.0	61.4-130	L745812-01	WG767335
trans-1,2-Dichloroethene	mg/kg	0.119	0.0	.025	95.0	56.5-129	L745812-01	WG767335
trans-1,3-Dichloropropene	mg/kg	0.113	0.0	.025	90.0	64.1-128	L745812-01	WG767335
Trichloroethene	mg/kg	0.125	0.0	.025	100.	44.1-149	L745812-01	WG767335
Trichlorofluoromethane	mg/kg	0.159	0.0	.025	130.	49.6-145	L745812-01	WG767335
Vinyl chloride	mg/kg	0.142	0.0	.025	110.	47.8-137	L745812-01	WG767335
Xylenes, Total	mg/kg	0.350	0.000736	.075	93.0	63.3-131	L745812-01	WG767335
4-Bromofluorobenzene					92.70	71-126		WG767335
Dibromofluoromethane					93.00	78.3-121		WG767335
Toluene-d8					103.0	88.5-111		WG767335
Naphthalene	mg/kg	0.0835	0.00100	.025	66.0	58-135	L746448-01	WG767887
Trichloroethene	mg/kg	0.105	0.0	.025	84.0	44.1-149	L746448-01	WG767887
4-Bromofluorobenzene					107.0	71-126		WG767887
Dibromofluoromethane					103.0	78.3-121		WG767887
Toluene-d8					98.90	88.5-111		WG767887

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Est. 1970

Quality Assurance Report
Level II

February 05, 2015

L745778

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TPH (GC/FID) High Fraction	mg/kg	44.2	45.2	71.9	50-150	2.22	20	L745812-01	WG767312
o-Terphenyl				71.00	50-150				WG767312
1,1,1,2-Tetrachloroethane	mg/kg	0.114	0.120	91.5	64-128	4.78	20	L745812-01	WG767335
1,1,1-Trichloroethane	mg/kg	0.109	0.119	87.2	58.7-134	8.97	20	L745812-01	WG767335
1,1,2,2-Tetrachloroethane	mg/kg	0.0966	0.104	77.3	56-132	7.46	22.2	L745812-01	WG767335
1,1,2-Trichloroethane	mg/kg	0.109	0.114	86.8	66.3-125	4.85	20	L745812-01	WG767335
1,1,2-Trichlorotrifluoroethane	mg/kg	0.119	0.138	95.5	54.8-154	14.8	22.5	L745812-01	WG767335
1,1-Dichloroethane	mg/kg	0.115	0.126	91.7	58.5-132	9.76	20	L745812-01	WG767335
1,1-Dichloroethene	mg/kg	0.118	0.132	94.7	51.1-140	10.8	20.2	L745812-01	WG767335
1,1-Dichloropropene	mg/kg	0.107	0.122	85.7	57.3-136	13.3	20	L745812-01	WG767335
1,2,3-Trichlorobenzene	mg/kg	0.0805	0.0905	63.5	59.1-138	11.6	23.7	L745812-01	WG767335
1,2,3-Trichloropropane	mg/kg	0.100	0.104	80.3	61.4-128	3.47	22.4	L745812-01	WG767335
1,2,3-Trimethylbenzene	mg/kg	0.0939	0.104	74.8	61.3-122	9.97	20	L745812-01	WG767335
1,2,4-Trichlorobenzene	mg/kg	0.0802	0.0925	63.3*	63.6-143	14.3	21.9	L745812-01	WG767335
1,2,4-Trimethylbenzene	mg/kg	0.0949	0.105	75.5	57.4-137	9.85	20	L745812-01	WG767335
1,2-Dibromo-3-Chloropropane	mg/kg	0.0873	0.0884	69.8	57.3-136	1.21	27	L745812-01	WG767335
1,2-Dibromoethane	mg/kg	0.103	0.109	82.7	67.1-125	5.52	20	L745812-01	WG767335
1,2-Dichlorobenzene	mg/kg	0.0916	0.101	73.0	68.2-123	10.0	20	L745812-01	WG767335
1,2-Dichloroethane	mg/kg	0.0969	0.104	77.5	60-126	7.50	20	L745812-01	WG767335
1,2-Dichloropropane	mg/kg	0.117	0.126	93.8	64.2-123	7.03	20	L745812-01	WG767335
1,3,5-Trimethylbenzene	mg/kg	0.101	0.110	80.5	63.6-132	8.18	20.5	L745812-01	WG767335
1,3-Dichlorobenzene	mg/kg	0.0986	0.108	78.6	63.1-131	9.39	20	L745812-01	WG767335
1,3-Dichloropropane	mg/kg	0.108	0.113	86.1	67.9-121	5.31	20	L745812-01	WG767335
1,4-Dichlorobenzene	mg/kg	0.0921	0.103	73.7	68.6-123	11.0	20	L745812-01	WG767335
2,2-Dichloropropane	mg/kg	0.125	0.135	100.	50.5-144	7.66	21.9	L745812-01	WG767335
2-Butanone (MEK)	mg/kg	0.693	0.730	111.	22.4-138	5.26	27	L745812-01	WG767335
2-Chloroethyl vinyl ether	mg/kg	0.497	0.533	79.5	10-155	6.94	40	L745812-01	WG767335
2-Chlorotoluene	mg/kg	0.103	0.115	82.7	63.6-128	10.5	20	L745812-01	WG767335
4-Chlorotoluene	mg/kg	0.0937	0.102	74.9	65.7-127	8.61	20	L745812-01	WG767335
4-Methyl-2-pentanone (MIBK)	mg/kg	0.521	0.545	83.3	60.8-140	4.54	25.1	L745812-01	WG767335
Acetone	mg/kg	0.918	0.960	146.*	10-130	4.44	27.9	L745812-01	WG767335
Acrylonitrile	mg/kg	0.525	0.557	84.0	49.4-133	5.99	25.3	L745812-01	WG767335
Benzene	mg/kg	0.112	0.123	89.6	54.3-133	9.08	20	L745812-01	WG767335
Bromobenzene	mg/kg	0.0960	0.104	76.8	63.9-124	8.17	20	L745812-01	WG767335
Bromodichloromethane	mg/kg	0.101	0.109	80.5	63.9-121	7.73	20	L745812-01	WG767335
Bromoform	mg/kg	0.104	0.117	83.4	59.5-134	11.2	20.8	L745812-01	WG767335
Bromomethane	mg/kg	0.168	0.184	135.	41.7-155	8.98	20.5	L745812-01	WG767335
Carbon tetrachloride	mg/kg	0.107	0.122	85.4	55.7-134	13.1	20.3	L745812-01	WG767335
Chlorobenzene	mg/kg	0.108	0.118	86.8	67-125	8.41	20	L745812-01	WG767335
Chlorodibromomethane	mg/kg	0.106	0.113	84.6	64.3-125	6.98	20	L745812-01	WG767335
Chloroethane	mg/kg	0.130	0.144	104.	51.5-136	10.5	20.8	L745812-01	WG767335
Chloroform	mg/kg	0.105	0.114	83.7	63-129	8.70	20	L745812-01	WG767335
Chloromethane	mg/kg	0.121	0.133	96.5	42.4-135	9.77	20	L745812-01	WG767335
cis-1,2-Dichloroethene	mg/kg	0.111	0.120	88.9	59.2-129	7.32	20	L745812-01	WG767335
cis-1,3-Dichloropropene	mg/kg	0.107	0.116	85.6	66.4-125	8.47	20	L745812-01	WG767335
Di-isopropyl ether	mg/kg	0.112	0.120	89.8	56.9-136	6.91	20	L745812-01	WG767335
Dibromomethane	mg/kg	0.109	0.113	87.2	68.2-124	3.53	20	L745812-01	WG767335
Dichlorodifluoromethane	mg/kg	0.101	0.116	80.8	40.6-144	13.6	20.2	L745812-01	WG767335
Ethylbenzene	mg/kg	0.106	0.116	85.1	61.4-133	8.29	20	L745812-01	WG767335
Hexachloro-1,3-butadiene	mg/kg	0.0843	0.0976	67.4	55.1-136	14.6	23.6	L745812-01	WG767335
Isopropylbenzene	mg/kg	0.105	0.115	84.0	66.8-141	8.90	20	L745812-01	WG767335
Methyl tert-butyl ether	mg/kg	0.102	0.108	81.5	57.7-134	5.68	20	L745812-01	WG767335
Methylene Chloride	mg/kg	0.109	0.119	87.1	58.1-122	8.90	20	L745812-01	WG767335
n-Butylbenzene	mg/kg	0.0845	0.0960	67.0	62.7-140	12.8	20	L745812-01	WG767335
n-Propylbenzene	mg/kg	0.0991	0.110	79.3	10-176	10.6	26.6	L745812-01	WG767335
Naphthalene	mg/kg	0.0736	0.0810	57.9*	58-135	9.55	25.5	L745812-01	WG767335
p-Isopropyltoluene	mg/kg	0.0977	0.107	77.8	63.2-139	9.55	20.4	L745812-01	WG767335
sec-Butylbenzene	mg/kg	0.0984	0.110	78.4	62.2-136	11.3	20.3	L745812-01	WG767335

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Styrene	mg/kg	0.107	0.116	85.8	66.8-133	7.76	20	L745812-01	WG767335
tert-Butylbenzene	mg/kg	0.104	0.113	83.4	63.3-134	8.34	20.3	L745812-01	WG767335
Tetrachloroethene	mg/kg	0.113	0.127	90.0	53-139	12.2	20	L745812-01	WG767335
Toluene	mg/kg	0.107	0.119	85.2	61.4-130	10.5	20	L745812-01	WG767335
trans-1,2-Dichloroethene	mg/kg	0.109	0.119	87.2	56.5-129	8.38	20	L745812-01	WG767335
trans-1,3-Dichloropropene	mg/kg	0.105	0.113	83.6	64.1-128	7.33	20	L745812-01	WG767335
Trichloroethene	mg/kg	0.115	0.125	91.8	44.1-149	8.86	20	L745812-01	WG767335
Trichlorofluoromethane	mg/kg	0.145	0.159	116.	49.6-145	9.46	21.2	L745812-01	WG767335
Vinyl chloride	mg/kg	0.127	0.142	102.	47.8-137	11.2	20	L745812-01	WG767335
Xylenes, Total	mg/kg	0.320	0.350	85.3	63.3-131	8.90	20	L745812-01	WG767335
4-Bromofluorobenzene				93.20	71-126				WG767335
Dibromofluoromethane				93.40	78.3-121				WG767335
Toluene-d8				104.0	88.5-111				WG767335
Naphthalene	mg/kg	0.0996	0.0835	78.9	58-135	17.6	25.5	L746448-01	WG767887
Trichloroethene	mg/kg	0.118	0.105	94.3	44.1-149	11.6	20	L746448-01	WG767887
4-Bromofluorobenzene				106.0	71-126				WG767887
Dibromofluoromethane				101.0	78.3-121				WG767887
Toluene-d8				99.40	88.5-111				WG767887

Batch number /Run number / Sample number cross reference

WG767469: R3017222: L745778-01 02 03 04 05 06
WG767312: R3017622 R3017728: L745778-01 02 03 04 05 06
WG768046: R3017906: L745778-07
WG767335: R3018035: L745778-01 02 03 04 05 06
WG767887: R3018212: L745778-01 02 06

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Quality Assurance Report
Level II

February 05, 2015

L745778

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

APPENDIX L

IN-SITU CHEMICAL OXIDATION BENCH TEST REPORT



Bench Test Report

CTS of Asheville, Inc. Superfund Site

Prepared for:

**Amec Foster Wheeler Environment &
Infrastructure, Inc.
1308 Patton Avenue
Asheville, NC 28806**

June 9, 2015

Prepared by:

**Geo-Cleanse International, Inc.
400 State Route 34, Suite B
Matawan, NJ 07747
Telephone: (732) 970-6696
www.geocleanse.com**

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Appendices

Appendix A: ESC Analytical Reports

1. Introduction and Objectives

Soil and groundwater at the CTS of Asheville, Inc. Superfund Site in Asheville, NC are impacted with volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), including a non-aqueous phase liquid (NAPL). It is our understanding that the primary concern is trichloroethylene (TCE) that is cosolved into a light, non-aqueous phase liquid (LNAPL) that is comprised of weathered fuel oil. On behalf of Amec Foster Wheeler (AMECFW), bench-scale treatability tests were performed by Geo-Cleanse International, Inc. (Geo-Cleanse) of Matawan, New Jersey in order to help assess the feasibility of reducing the concentrations of these chemicals by in-situ chemical oxidation (ISCO).

The overall objective was to evaluate, at the bench-scale level, the effectiveness of catalyzed hydrogen peroxide (CHP) using representative soil and groundwater. Specific objectives of the bench test were:

- (1) Determine the extent of degradation of the chemicals of concern with CHP and estimate the associated oxidant demand.
- (2) Assess the soil buffering capacity of the soil. This is very important to determine if an acidic or non-acidic catalyst system provides the optimal approach for a field application.
- (3) Assess natural reactivity of the soil towards hydrogen peroxide. This very important test assesses the amount of reactive iron and other transition metals naturally available in the soil, which affects the amount of iron and/or stabilizer needed.
- (4) Generate treatability data sufficient to estimate field-scale treatment costs on the basis of the bench-scale test results.

This report presents the experimental approach, methods, and results of the bench tests. The remainder of this report is organized as follows:

- Section 2 provides a primer on oxidation chemistry and other considerations associated with the chemical treatment.
- Section 3 summarizes the materials and methods utilized to conduct the bench test.
- Section 4 presents and discusses the results of the bench-scale testing with consideration of the potential feasibility relative to the CTS Superfund Site.
- Section 5 presents general conclusions drawn from the bench-scale results.
- Section 6 provides a list of references cited in the text.

2. Oxidation Chemistry

2.1. Catalyzed Hydrogen Peroxide

Catalyzed hydrogen peroxide¹ is a solution of hydrogen peroxide and a transition metal (typically ferrous iron) catalyst, which together generate a hydroxyl free radical that acts as the active oxidizing agent (Haber and Weiss, 1934). The basic radical-producing reaction is characterized as:



where H_2O_2 is hydrogen peroxide, Fe^{+2} is ferrous iron, $\text{OH}\cdot$ is hydroxyl free radical, OH^- is hydroxyl ion, and Fe^{+3} is ferric iron. Fenton's reagent chemistry is complex, involving a number of additional reactions producing both oxidants and reductants that contribute to contaminant destruction (e.g., Watts et al., 1999a):



where $\text{HO}_2\cdot$ is hydroperoxyl radical, HO_2^- is hydroperoxyl anion, O_2 is molecular oxygen, O_2^- is superoxide radical, H^+ is hydronium ion, and H_2O is water. Additional reactions occur with organic compounds. The suite of reactions associated with CHP is complex, but very effective at destroying many organic compounds dissolved in groundwater, sorbed to soil, or existing as NAPL. CHP is generally most efficient under acidic pH conditions (pH of approximately 4 to 6) because oxidation of iron (from Fe^{+2} to Fe^{+3}) by other reactions is minimized, hydrous ferric iron oxides are less likely to precipitate and remove iron from solution, and bicarbonate (which competes with the organic compounds for hydroxyl radicals) is absent. However, an effective (although not chemically optimal) CHP system can be established at a pH greater than 6 (e.g., Watts et al., 1999b; Lindsey and Tarr, 2000).

The hydroxyl free radical generated by CHP is a powerful, non-selective oxidant. Oxidation of an organic compound by CHP is a rapid and exothermic (heat-producing) reaction. Rate constants for reactions of hydroxyl free radical with common environmental pollutants are typically in the range of 10^7 to $10^{10} \text{ M}^{-1}\text{s}^{-1}$ (e.g., Buxton et al., 1988; Haag and Yao, 1992), and 100% mineralization is generally complete in

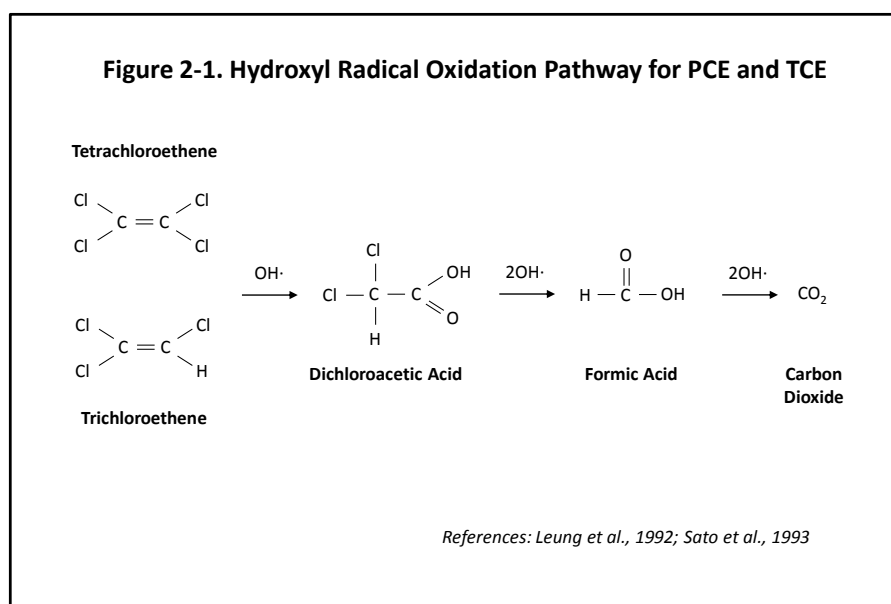
¹ ISCO with hydrogen peroxide is commonly referred to as Fenton's reagent or modified Fenton's reagent. However, the process as implemented in the field differs significantly from "classical" Fenton's reagent chemistry. "Catalyzed hydrogen peroxide propagations" was recommended by Watts and Teel (2005) to more accurately reflect the suite of chemical reactions associated with hydrogen peroxide ISCO and to differentiate it from classical Fenton chemistry. We refer to this as "catalyzed hydrogen peroxide" or CHP.

minutes. Intermediate compounds are primarily naturally occurring carboxylic acids. The end products of oxidation are primarily carbon dioxide and water. None of the injected reagents pose an environmental hazard. Unconsumed H₂O₂ naturally degrades to oxygen and water within a few days or weeks after injection.

2.2. Contaminant Destruction and Other Considerations

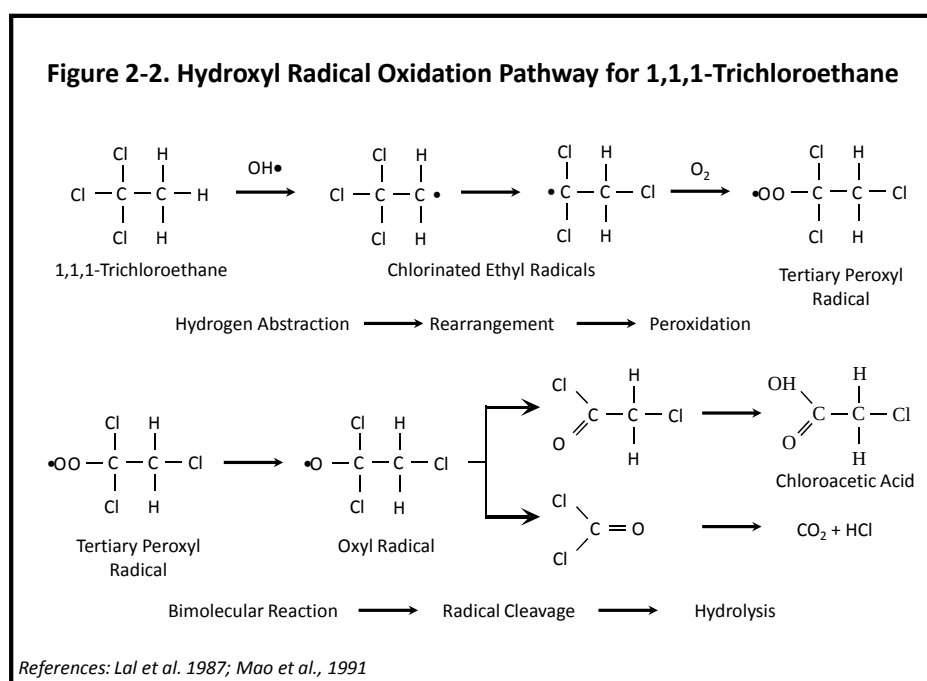
2.2.1. Trichloroethane and 1,1-Dichloroethene

Fenton's reagent oxidizes chlorinated aliphatic compounds such as 1,1-DCE and TCE and their natural degradation products, to substituent carbon dioxide, water, and chloride, via an oxidation pathway that involves carboxylic acids. The oxidation pathway is not a dehalogenation process like natural biodegradation, and additional cis-1,2-dichloroethene or vinyl chloride are not produced by Fenton's reagent oxidation of TCE or 1,1-DCE. Reported rate constants for reaction of OH· with TCE range from $4.0\text{--}4.3 \times 10^9 \text{ M}^{-1}\text{s}^{-1}$ (Buxton et al., 1988), indicating an extremely rapid reaction. Oxidation of TCE by Fenton's reagent produces dichloroacetic acid as the only significant intermediate product, which is in turn oxidized to formic acid and finally to water, carbon dioxide, and chloride (Figure 2-1). The 1,1-DCE oxidation pathway is nearly identical.



2.2.2. 1,1,1-Trichloroethane

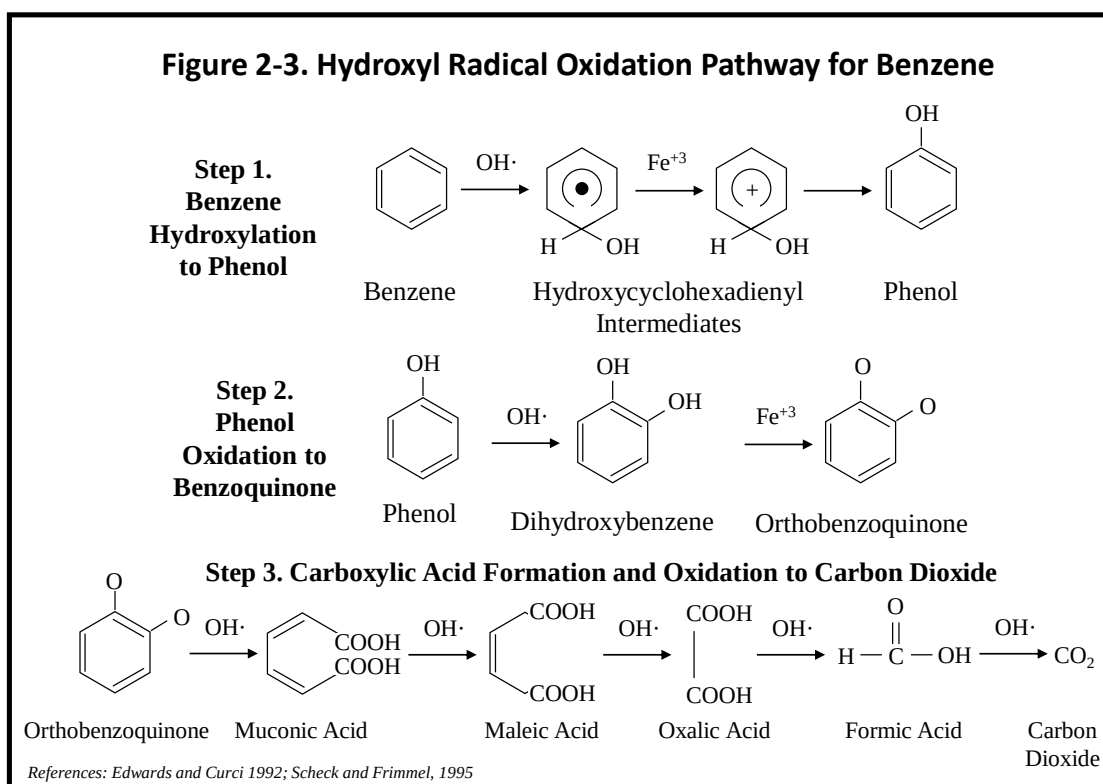
Oxidation of 1,1,1-TCA and its related compounds by hydroxyl free radicals produces chloroacetic acid, acetic acid and formic acid as the only significant intermediate products, which are further oxidized to water, carbon dioxide, hydrogen ions, and chloride ions (Lal et al., 1987; Mao et al., 1991; Pignatello et al., 1999). The initial attack to the chlorinated ethane structure is hydrogen abstraction on the non-halogenated carbon, resulting in formation of a chlorinated ethyl radical (Figure 2-2). A 1,2 shift of a chlorine atom occurs and in the presence of oxygen and a tertiary peroxy radical is formed. An oxyl radical is formed from a bimolecular reaction, which then undergoes radical cleavage to generate chloroacetic acid (by hydrolysis) or carbon dioxide. Alternatively, formic acid may be formed by direct cleavage of the C-C bond without formation of a C2 skeleton. Fenton's reagent does not directly attack the C-Cl bonds.



2.2.3. BTEX Degradation

The oxidation pathway of benzene is well known (e.g., Merz and Waters, 1949; Lindsay Smith and Norman, 1963; Walling and Johnson, 1975; Edwards and Curci, 1992; Scheck and Frimmel, 1995; Kang and Hua, 2005) and provides a model for the oxidation pathway of other monoaromatic hydrocarbons comprising of BTEX. Reaction of benzene with $\text{OH}\cdot$ produced in CHP reactions produces short-lived and highly reactive aromatic intermediates. The initial attack is by hydroxylation to phenol with subsequent oxidation to orthobenzoquinone (Figure 2-3). Subsequent CHP oxidation of phenolic compounds

through quinones to carboxylic acids is also well documented (e.g., Chen and Pignatello, 1997; Kang et al., 2002; Kavitha and Palanivelu, 2005; Pontes et al., 2010). Once orthobenzoquinone is formed, ring tension and oxidizing agents rapidly force fission of the aromatic ring to produce muconic acid, a linear carboxylic acid. The pathway then proceeds through a series of intermediate carboxylic acids to carbon dioxide. Hydroxyl radicals do not readily oxidize certain carboxylic acids produced as intermediate oxidation products from organic compounds, thus mineralization may be incomplete although no hazardous intermediate compounds are formed. For example, oxalic acid produced as an intermediate product from benzene is not readily oxidized in the absence of light (e.g., Karpel vel Leitner, 1997). A similar series of intermediate products, possibly also including benzoic acid, is reported for toluene (Merz and Waters, 1949; Lindsay Smith and Norman, 1963; Walling and Johnson, 1975).



2.2.4. PAH Degradation

CHP oxidation of PAHs is also well demonstrated, although the oxidation pathways are not as well known as for VOCs. Lee et al. (1998, 2001), Lee and Hosomi (2001a, 2001b), and Lundstedt et al. (2006) reported that oxidation of several PAHs, including anthracene, acenaphthylene, fluorene, benzo(a)anthracene, and benzo(a)pyrene, produced quinones and diones as intermediate or final

oxidation products. Lundstedt et al. (2007) suggested that the intermediates may also exhibit toxicity; however more detailed studies have reported that intermediate oxidation products are less toxic, more susceptible to further oxidation, and more susceptible to natural degradation than the parent PAH compounds (Martens and Frankenberger, 1995; Chen and Pignatello, 1997; Kelley et al., 1997; Allen and Reardon, 2000; Nam and Kukor, 2000; Zeng et al., 2000; Lee and Hosomi, 2001a, 2001b; Zappi et al., 2002; Watts et al., 2002).

2.2.5. Ketone Formation

In addition to phenols, quinones, diones, and fatty acids that are known to form as oxidation intermediates from CHP degradation, acetone and 2-butanone are often detected at both bench- and field-scale applications of CHP and other oxidants including persulfate and permanganate. Once formed, ketones react very slowly with hydroxyl radicals (e.g., Stefan and Bolton, 1999) and are recalcitrant to chemical oxidation. The mechanism of ketone formation during ISCO is not well understood but the occurrence of ketones is commonly reported. Acetone is a known oxidation byproduct of methyl tert-butyl ether (MTBE), but acetone is often detected at sites with no known MTBE impact. In addition, reaction of hydroxyl radicals with alkyl groups associated with organic compounds can produce alkoxy radicals, which may undergo spontaneous fission to produce acetone (e.g., Cederbaum et al., 1983). However, once formed, ketones are typically degraded rapidly by other (biological) processes following the ISCO treatment and do not persist.

2.2.6. Impact on Biodegradation and Toxicity

Although CHP does temporarily reduce microbial activity, aquifer materials are not sterilized even by aggressive ISCO treatment and natural degradation processes return quickly (e.g., Büyüksönmez et al., 1998, 1999; Chapelle et al., 2005; Ndjou'ou et al., 2006). As summarized in Section 2.2.4, products resulting from CHP oxidation of PAHs in particular are generally much more susceptible to natural degradation and are less toxic than the parent PAH compounds.

2.2.7. Why Acidification is Important to CHP

Geo-Cleanse prefers to implement CHP under mildly acidic groundwater pH conditions (typically in the range of 4-6). This pH range is optimal for several reasons:

- (1) Iron is maintained in the reduced and soluble Fe^{+2} valence state, which is important for reaction initiation (see equation 1, Section 2.1). Under circumneutral pH conditions, Fe^{+2} is rapidly oxidized to Fe^{+3} , which reduces the efficiency of hydroxyl radical production and contaminant oxidation.
- (2) Dissolved carbonate species in groundwater are reduced or eliminated at pH less than 6. This is important because dissolved bicarbonate is a relatively efficient hydroxyl radical scavenger, and under certain conditions hydroxyl radicals are much more likely to react with bicarbonate than the contaminants.

Iron solubility in the reduced Fe^{+2} state can be accomplished by the use of chelators. However, chelators introduce additional complexities to CHP chemistry. Most importantly, however, use of chelators to implement CHP at circum-neutral pH does not eliminate bicarbonate scavenging of hydroxyl radicals; chelators also react with hydroxyl radicals and thus themselves scavenge radicals and increase oxidant demand. Bicarbonate scavenging and chelator scavenging can only be reduced or eliminated under mildly acidic pH conditions and without the use of chelators, respectively. Therefore, the Geo-Cleanse® Process is optimized for mildly acidic pH conditions.

3. Materials and Methods

3.1. Soil and Groundwater Collection

Samples for the bench test were collected by an AMECFW representative and sent to Geo-Cleanse's testing laboratory. Soil samples were received from two locations labeled as SS-41 and SS-42. A total of four 1-L jars of soil were collected from each sample location. Groundwater for the bench test was collected from MW-13 and containerized in sixteen 1-L amber jars. The soil samples were received by Geo-Cleanse personnel on January 23, 2015 and frozen until groundwater for the bench was received on April 2, 2015. Upon receipt at the Geo-Cleanse office, groundwater samples were logged and stored in a refrigerator.

3.2. Baseline Sampling

Baseline samples of the soil and groundwater were collected and analyzed to ensure that the materials provided for the bench test contained the target chemicals of concern at anticipated concentrations. Composite baseline samples of soil and groundwater were collected by Geo-Cleanse. Baseline soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (base neutrals only), extractable petroleum hydrocarbons (EPH), and volatile petroleum hydrocarbons (VPH).

The samples were analyzed with expedited 72-hr turnaround so that the data could be evaluated and utilized to prepare the subsequent slurry tests. Analytical methods are summarized in Section 3.3.1 and results are summarized in Section 4. The baseline data were provided to AMECFW for approval before proceeding further with the bench test.

3.3. Laboratory Methods

3.3.1. Analytical Laboratory Methods

The analytical methods used by ESC Lab Sciences (ESC) are outlined as follows. Samples were containerized in bottles based on the specified tests, and packed in coolers with ice for overnight shipping to ESC using standard COC practices. Samples for all soil analyses were collected into a 4 oz glass jar without preservative for EPH and SVOC analysis, and a 2 oz glass jar without preservative for total solids analysis. VOC and VPH samples were sampled using terracore samplers with 40 ml VOA vials containing sodium bisulfate and methanol preservatives. Soil analytical methods utilized were Method 8260B for VOC analysis, Method 8270D for base neutrals SVOC analysis, Method MADEPV for VPH analysis, Method MADEPE for EPH analysis, and Method M2540G for percent solids analysis.

Groundwater for VOC and VPH analysis were collected in 40 mL VOA bottles with hydrochloric acid preservative and analyzed with Methods 8260B and MADEPV consecutively. Groundwater for SVOC base neutrals analysis was collected in 100 mL amber bottles without preservative and analyzed with

Method 8270D. Samples for EPH were collected in a 1-L amber bottle with hydrochloric acid and analyzed with Method MADEPE. All soil and groundwater samples were submitted to ESC for analysis.

3.3.2. CHP Soil Buffering Tests

Soil buffering (acid titration) tests were performed on samples to assess the amount of acid necessary to achieve a pH of 4 (within the optimal pH range for the Geo-Cleanse® Process). Two different acids were tested: 10% sulfuric acid and 10% phosphoric acid. Sulfuric acid is a strong acid that completely dissociates in water, whereas phosphoric acid is a weaker, buffering acid that partially dissociates as a function of pH and acid consumption by the soil. Phosphoric acid also acts as a stabilizer for peroxide because the phosphate forms a ligand with iron and other transition metals that can catalyze the peroxide. These are the acids typically utilized by Geo-Cleanse for CHP field treatment programs.

For each test, a 50% solids slurry was prepared in a 100-mL Pyrex beaker using 50 g of soil and 50 mL of groundwater. The slurry was stirred, allowed to settle for 10 minutes, and the baseline pH was measured with a calibrated pH meter. A 100 µL aliquot of acid was added, and the slurry was thoroughly mixed and allowed to settle for 10 minutes. The slurry pH was measured again, and the process repeated until the slurry pH was 4.0 or less. Acid additions were discontinued after reaching a pH of 4.0 or less. After that time, the slurries were mixed, allowed to settle, and pH was measured in 15 minute intervals for an additional two hours to determine the rebound of the soil and groundwater.

3.3.3. CHP Soil Reactivity Tests

Soil reactivity towards hydrogen peroxide under acidic conditions was assessed to determine if autochthonous iron present in the soil was sufficient to sustain a CHP treatment, or if iron addition would be required. Additional slurries were prepared with 50 g of soil and 50 mL of groundwater in a Pyrex beaker and amended with 10% sulfuric acid or phosphoric acid. The beakers were then amended with 1.0 mL of 34% hydrogen peroxide. Aqueous samples were analyzed at approximately fifteen minute intervals for iron, peroxide, and pH using field test kits. The headspace in the covered beaker was analyzed with a photoionization detector (PID) to assess VOC destruction. The addition of ferrous sulfate heptahydrate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$) assesses the anticipated increase in reaction from adding iron.

3.3.4. CHP Slurry Oxidation Tests

Slurry oxidation tests for CHP were conducted with the supplied soil and groundwater in reactors consisting of 4-L HDPE bottles. One reactor was prepared for the control (no oxidant) and each of three tests. Reactors for SS-41 were loaded with 1.0 kg of soil and 1.7 L of groundwater. Reactors for SS-42 were loaded with 0.9 kg of soil and 1.7L of groundwater. The volumes utilized reflect a balance of the reactor volume (4 liters) coupled with sample size requirements for the post-treatment aqueous samples. The tests were conducted at peroxide:contaminant mass ratios targeted at 10:1, 18:1, and 25:1, with contaminant mass based upon concentrations in baseline samples (Table 3.1). While contaminant mass is utilized to estimate peroxide requirements, oxidant demand is recalculated relative

to a control sample included with the oxidation test samples, in terms of mass of oxidant per mass of soil. Table 3-1 presents the baseline data. Tables 3-2 and 3-3 provide the corresponding contaminant mass and peroxide dosages utilized for each test. Undetected analytes were considered to have a zero concentration. The actual ratios for the test are calculated based upon the control sample (Section 4.4).

Table 3-1. Baseline Data

	Baseline GW (MW-13)			Baseline Soil (SS-41)			Baseline Soil (SS-42)		
	Result	Reporting Limit	Units	Result	Reporting Limit	Units	Result	Reporting Limit	Units
% Solids				81.4		%	82.6		%
VOC's									
Benzene	140	100	ug/l	BDL	0.56	mg/kg	BDL	0.28	mg/kg
n-Butylbenzene	BDL	100	ug/l	4.3	0.56	mg/kg	3.9	0.28	mg/kg
sec-Butylbenzene	BDL	100	ug/l	3.2	0.56	mg/kg	4	0.28	mg/kg
Ethylbenzene	BDL	100	ug/l	3.1	0.56	mg/kg	1.4	0.28	mg/kg
Isopropylbenzene	BDL	100	ug/l	2.2	0.56	mg/kg	2.9	0.28	mg/kg
p-Isopropyltoluene	BDL	100	ug/l	2.2	0.56	mg/kg	2.8	0.28	mg/kg
Naphthalene	BDL	500	ug/l	4.2	2.8	mg/kg	12	1.4	mg/kg
n-Propylbenzene	BDL	100	ug/l	4.3	0.56	mg/kg	4.4	0.28	mg/kg
1,1,1-Trichloroethane	460	100	ug/l	BDL	0.56	mg/kg	1.1	0.28	mg/kg
Trichloroethene	13000	100	ug/l	430	11	mg/kg	86	2.2	mg/kg
1,2,4-Trimethylbenzene	BDL	100	ug/l	6	0.56	mg/kg	18	0.28	mg/kg
1,2,3-Trimethylbenzene	BDL	100	ug/l	10	0.56	mg/kg	9.7	0.28	mg/kg
1,3,5-Trimethylbenzene	BDL	100	ug/l	7.9	0.56	mg/kg	2.8	0.28	mg/kg
Xylenes, Total	BDL	300	ug/l	7.9	1.7	mg/kg	10	0.84	mg/kg
SVOC's (Base Neutral Extractables)									
Acenaphthene	7.6	1	ug/l	1.8	0.4	mg/kg	1.8	0.4	mg/kg
Acenaphthylene	BDL	1	ug/l	0.53	0.4	mg/kg	0.47	0.4	mg/kg
Anthracene	5.6	1	ug/l	BDL	0.4	mg/kg	0.44	0.4	mg/kg
Fluorene	8	1	ug/l	1.8	0.4	mg/kg	2.7	0.4	mg/kg
2-Methylnaphthalene	180	1	ug/l	15	0.4	mg/kg	29	0.4	mg/kg
Naphthalene	77	1	ug/l	0.92	0.4	mg/kg	5.2	0.4	mg/kg
Phenanthrene	12	1	ug/l	8.1	0.4	mg/kg	5.7	0.4	mg/kg
Pyrene	BDL	1	ug/l	0.56	0.4	mg/kg	0.79	0.4	mg/kg
VPH									
C5-C8 Aliphatics	6100	100	ug/l	420	5.6	mg/kg	380	5.6	mg/kg
C9-C12 Aliphatics	5600	100	ug/l	220	5.6	mg/kg	140	5.6	mg/kg
C9-C10 Aromatics	1100	100	ug/l	440	5.6	mg/kg	510	5.6	mg/kg
	640	100	ug/l	260	23	mg/kg	340	22	mg/kg
EPH									
C9-C18 Aliphatics	2500	100	ug/l	12000	160	mg/kg	12000	160	mg/kg
C19-C36 Aliphatics	1100	100	ug/l	7600	160	mg/kg	7300	160	mg/kg
C11-C22 Aromatics	240	100	ug/l	1700	160	mg/kg	1300	160	mg/kg
	1200	100	ug/l	2600	160	mg/kg	2900	160	mg/kg

BDL = Below Detection Limit

The slurry pH in the reactors was adjusted to approximately 4-5 with 10% sulfuric acid (H₂SO₄), and 3.0 g of ferrous sulfate was added to each reactor. The hydrogen peroxide was added at concentrations ranging from 14-34% as shown in Table 3-2 and Table 3-3, with higher concentrations utilized for higher target dosages in order to keep reagent volumes similar. Hydrogen peroxide was added in 5-mL aliquots at approximately 5-10 minute intervals until the full charge was delivered to all reactors. The slurry pH, iron concentration, and peroxide concentration were measured periodically and additional 10% sulfuric acid and ferrous sulfate was added as needed to maintain a pH of approximately 4-5. After the full oxidant charge was added, the reactors were allowed to digest until the peroxide was consumed.

Soil and water samples from each slurry test and the control were collected for submittal to the analytical laboratory. Water samples were collected first, without filtration or neutralization.

Table 3-2. SS-41 CHP Slurry Oxidation Test Calculations

Baseline Concentration	Soil (mg/kg)	Water (mg/L)	
C5-C8 Aliphatics	220	6.10	
C9-C18 Aliphatics	7600	1.10	
C19-C36 Aliphatics	1700	0.24	
C9-C10 Aromatics	260	0.64	
C11-C22 Aromatics	2600	1.20	
Total VOCs (Excluding duplicates)	449	13.6	
% Solids	81.40%	Not Applicable	
Liters of water =	1.7		
Kilos of soil =	1.0		
COC Mass in Soil =	10.44 g (wet soil mass x % solids x total COC concentration)		
COC Mass in Water =	0.04 g (water volume x total COC concentration)		
Total COC Mass =	10.48 grams		
10:1 ratio =	104.8	grams of H ₂ O ₂ =	749 grams 14% H ₂ O ₂
18:1 ratio =	188.7	grams of H ₂ O ₂ =	755 grams 25% H ₂ O ₂
25:1 ratio =	262.0	grams of H ₂ O ₂ =	771 grams 34% H ₂ O ₂

Table 3-3. SS-42 CHP Slurry Oxidation Test Calculations

Baseline Concentration	Soil (mg/kg)	Water (mg/L)	
C5-C8 Aliphatics	140	5.60	
C9-C18 Aliphatics	7300	1.10	
C19-C36 Aliphatics	1300	0.24	
C9-C10 Aromatics	340	0.64	
C11-C22 Aromatics	2900	1.20	
Total VOCs (Excluding duplicates)	106	13.6	
% Solids	82.6%	Not Applicable	
Liters of water =	1.7		
Kilos of soil =	0.9		
COC Mass in Soil =	8.99 g (wet soil mass x % solids x total COC concentration)		
COC Mass in Water =	0.04 g (water volume x total COC concentration)		
Total COC Mass =	9.02 grams		
10:1 ratio =	90.2	grams of H ₂ O ₂ =	645 grams 14% H ₂ O ₂
18:1 ratio =	162.4	grams of H ₂ O ₂ =	650 grams 25% H ₂ O ₂
25:1 ratio =	225.6	grams of H ₂ O ₂ =	663 grams 34% H ₂ O ₂

4. Results and Discussion

4.1. Baseline Soil and Groundwater Conditions

The concentrations of detected analytes from the baseline sampling event are summarized in Table 3-1. The full laboratory reports are provided in Appendix A. Soil samples were received from two locations labeled as SS-41 and SS-41. SS-42 is generally described as being representative of the sandy soil on site and SS-41 being representative of the silty sand soil on site.

4.2. Soil Buffering Tests

The soil buffering capacity results for each of the CHP areas (upper sand unit and lower sand unit) are below. The baseline pH (before acid addition) in the slurries ranged from 5.74-6.10, indicating that the aquifer materials are slightly acidic. The addition of 100 μ L of 10% sulfuric acid and phosphoric acid, respectively, lowered the slurry tests to a pH of less than 4. Sulfuric acid is a strong acid that is fully dissociated in solution, while phosphoric is a weaker, buffering acid that is not fully dissociated in solution. In our experience, sulfuric acid is more effective at achieving the target pH of approximately 4 when the buffering capacity of the soil is moderate to low. When the buffering capacity of the soil is high, phosphoric acid is more effective. Thus based upon these results, the buffering capacity of the soil is low, and the target pH range can be achieved.

Once the target pH was reached, the slurry pH was monitored over a 120-minute period to evaluate pH rebound and assess ongoing acid addition requirements. The resulting data for the two soil samples are charted in Figure 4-1, and the data are provided in Table 4-1. As with the initial pH titration tests, the rebound data indicate a mild pH buffering capacity with soil from SS-42 having a larger rebound. Overall, these results indicate that the mildly acidic pH condition that is most conducive to CHP can be maintained during a treatment program at the site.

4.3. Soil Reactivity Tests

Soil reactivity test results with CHP are performed under acidic conditions similar to those used in the field with the Geo-Cleanse® Process. Degradation of hydrogen peroxide with time reflects the amount of autochthonous iron and other transition metals present in soil and available to react with peroxide. If iron or other reactive transition metals are present, then hydrogen peroxide concentration will decrease due to catalyzation. If iron is not present, then iron must be added in order to catalyze the hydrogen peroxide.

Iron was not initially detected at the detection limit of field test kits (5 mg/L), and a minimal amount of visible reaction was observed when peroxide was added without added iron. The initial hydrogen peroxide concentration in all tests was calculated at 6,470 mg/L and detected with field test kits indicating a peroxide concentration of 6,000 mg/L after 10 minutes. A small visible reaction was

Figure 4-1. pH Buffering Capacity

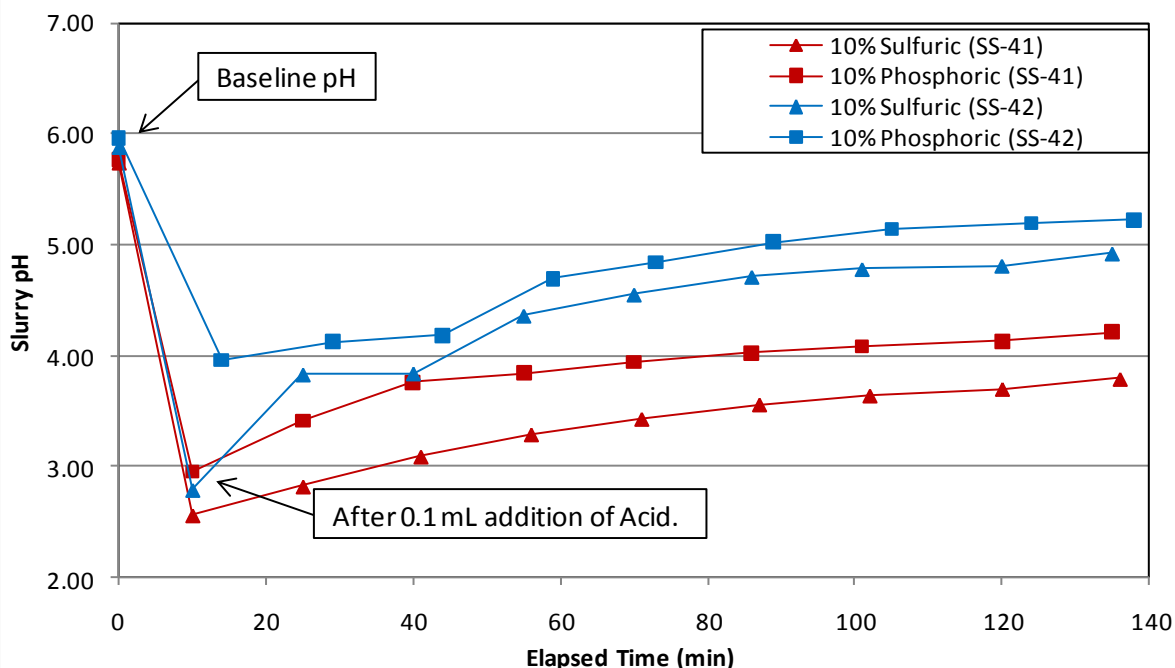


Figure 4-2. Reactivity Test: Hydrogen Peroxide Concentration

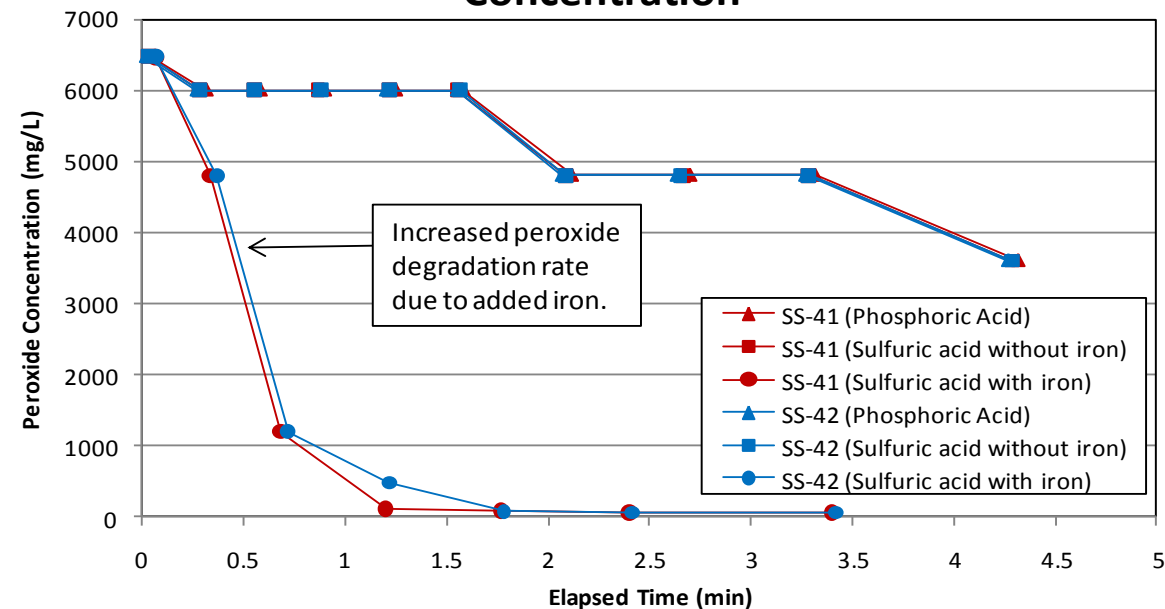


Table 4-1. Soil pH and Buffering Data

10% Sulfuric (SS-41)					10% Phosphoric (SS-41)				
Time	10% H ₂ SO ₄ Added (mL)	Cumulative 10% H ₂ SO ₄ (mL)	pH	Delta Time	Time	10% H ₂ SO ₄ Added (mL)	Cumulative 10% H ₃ PO ₄ (mL)	pH	Delta Time
9:26	0.00	0.00	5.74	0	9:28	0.00	0.00	5.76	0
9:36	0.10	0.10	2.56	10	9:38	0.10	0.10	2.95	10
9:51	0.00	0.10	2.82	25	9:53	0.00	0.10	3.41	25
10:07	0.00	0.10	3.09	41	10:08	0.00	0.10	3.76	40
10:22	0.00	0.10	3.29	56	10:23	0.00	0.10	3.84	55
10:37	0.00	0.10	3.43	71	10:38	0.00	0.10	3.94	70
10:53	0.00	0.10	3.56	87	10:54	0.00	0.10	4.02	86
11:08	0.00	0.10	3.64	102	11:09	0.00	0.10	4.08	101
11:26	0.00	0.10	3.70	120	11:28	0.00	0.10	4.13	120
11:42	0.00	0.10	3.79	136	11:43	0.00	0.10	4.21	135

10% Sulfuric (SS-42)					10% Phosphoric (SS-42)				
Time	10% H ₃ PO ₄ Added (mL)	Cumulative 10% H ₂ SO ₄ (mL)	pH	Delta Time	Time	10% H ₃ PO ₄ Added (mL)	Cumulative 10% H ₃ PO ₄ (mL)	pH	Delta Time
9:30	0.00	0.00	5.88	0	9:32	0.00	0.00	5.96	0
9:40	0.10	0.10	2.79	10	9:42	0.10	0.10	3.96	10
9:55	0.00	0.10	3.83	25	9:57	0.00	0.10	4.12	25
10:10	0.00	0.10	3.84	40	10:12	0.00	0.10	4.18	40
10:25	0.00	0.10	4.36	55	10:27	0.00	0.10	4.69	55
10:40	0.00	0.10	4.55	70	10:41	0.00	0.10	4.84	69
10:56	0.00	0.10	4.71	86	10:57	0.00	0.10	5.02	85
11:11	0.00	0.10	4.78	101	11:13	0.00	0.10	5.14	101
11:30	0.00	0.10	4.81	120	11:32	0.00	0.10	5.19	120
11:45	0.00	0.10	4.92	135	11:46	0.00	0.10	5.22	134

Table 4-2. Peroxide Reactivity Test Results

SS-41 (Phosphoric Acid)						SS-41 (Sulfuric acid without iron)						SS-41 (Sulfuric acid with iron)					
Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)	Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)	Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)
12:05	0	317	0		6.14	12:03	0	489	0		6.1	13:04	0	399	0		5.68
12:06	0.05	Add peroxide		6472	-	12:05	0.03	Add peroxide		6472	-	13:06	0.03	Add acid and Iron			
12:22	0.32	251	0	6000	3.24	12:20	0.28	425	0	6000	2.75	13:08	0.07	Add peroxide		6472	-
12:38	0.58	425	0	6000	3.64	12:36	0.55	413	0	6000	2.95	13:24	0.33	192	25	4800	2.56
12:57	0.90	483	0	6000	3.86	12:55	0.87	751	0	6000	3.19	13:45	0.68	85	90	1200	2.38
13:18	1.25	551	0	6000	3.99	13:16	1.22	739	0	6000	3.42	14:16	1.20	59	60	120	2.41
13:38	1.58	618	0	6000	4.09	13:36	1.55	686	0	6000	3.61	14:50	1.77	80	60	80	2.43
14:10	2.12	321	0	4800	4.18	14:08	2.08	392	0	4800	3.67	15:28	2.40	56	60	60	2.46
14:45	2.70	330	0	4800	4.20	14:43	2.67	372	0	4800	3.74	16:28	3.40	57	60	60	2.46
15:22	3.32	445	0	4800	4.20	15:20	3.28	381	0	4800	3.80						
16:22	4.32	348	0	3600	4.23	16:20	4.28	304	0	3600	3.81						

SS-42 (Phosphoric Acid)						SS-42 (Sulfuric acid without iron)						SS-42 (Sulfuric acid with iron)					
Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)	Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)	Time	Elapsed Time	Headspace PID (ppm)	Fe (mg/L)	H ₂ O ₂ (mg/L)	pH (s.u.)
12:10	0	173	0		6.26	12:07	0	195	0		6.23	13:05	0	174	0		5.96
12:11	0.02	Add peroxide		6472	-	12:09	0.03	Add peroxide		6472	-	13:07	0.03	Add acid and Iron			
12:26	0.27	154	0	6000	4.18	12:24	0.28	166	0	6000	3.00	13:09	0.07	Add peroxide		6472	-
12:43	0.55	198	0	6000	3.21	12:40	0.55	98	0	6000	3.94	13:27	0.37	129	30	4800	2.87
13:02	0.87	167	0	6000	3.87	13:00	0.88	169	0	6000	4.47	13:48	0.72	95	60	1200	2.59
13:22	1.20	184	0	6000	4.07	13:20	1.22	209	0	6000	2.76	14:18	1.22	84	30	480	2.53
13:43	1.55	198	0	6000	4.24	13:41	1.57	206	0	6000	3.03	14:52	1.78	82	30	80	2.60
14:14	2.07	168	0	4800	3.03	14:12	2.08	162	0	4800	3.28	15:30	2.42	58	30	60	2.65
14:48	2.63	179	0	4800	3.33	14:46	2.65	142	0	4800	3.47	16:30	3.42	55	30	60	2.67
15:26	3.27	120	0	4800	3.50	15:24	3.28	126	0	4800	3.59						
16:26	4.27	130	0	3600	3.76	16:24	4.28	135	0	3600	3.70						

observed when the hydrogen peroxide was added with minimal effervescence thereafter. All soil samples without added iron showed a slow decrease in peroxide concentration to 3,600 mg/L after approximately 4.5 hours (Figure 4-2). In tests that received ferrous sulfate, the hydrogen peroxide concentration decreased to less than 100 mg/L within two hours. The resulting data is provided in Table 4-2. The iron and stabilizer system will have to be routinely evaluated for suitable conditions over the course of the treatment program.

Reactivity (and resulting contaminant degradation) is also reflected in changes in the PID readings from the headspace of the reactors. Due to Henry's Law, the headspace PID measurements provide a proxy of the VOC concentration in the soil and water in the reactor. If peroxide is being catalyzed, then VOCs will degrade and the PID readings are expected to decrease. Without added iron, headspace PID readings remained relatively constant (very little observed reaction) but with added iron the headspace showed a general decrease.

4.4. Oxidation Tests

Oxidation tests were conducted with impacted soil and groundwater from the CTS of Asheville, Inc. Superfund Site. The analytical results for the slurry tests are presented in subsections below. A summary of the analytical results is provided in Table 4-3 and Table 4-4 with the contaminant mass calculations summarized in Table 4-5 and Table 4-7 (contaminant mass calculations were performed as shown in Table 3-2 and Table 3-3). Actual peroxide dosage calculations based on the control reactors are provided in Table 4-6 and Table 4-8.

Acetone and 2-butanone are excluded from the contaminant mass calculations because ketones are formed as oxidation products from reaction of hydrogen peroxide with naturally occurring soil organic carbon. Once formed, ketones do not react readily with hydroxyl radicals and thus typically accumulate in the reactors (Section 2.2.3). In the field, ketones are rapidly biodegraded and do not persist.

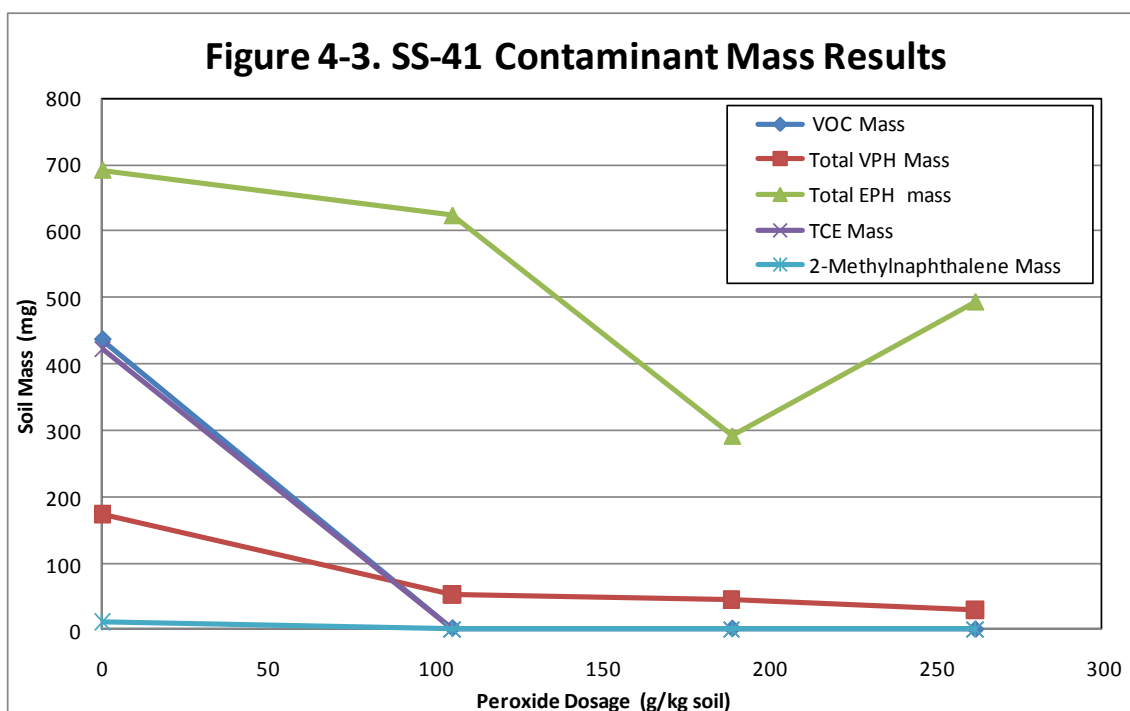
A set of reactors was dosed for each of the two soil types (SS-41 and SS-41), both utilizing groundwater from MW-13. Acetone and 2-butanone were not detected in baseline soil samples or control soil samples but were detected in some soil and groundwater samples that received oxidant.

4.4.1. SS-41 Oxidation Tests

Reactors for SS-41 received a dosage of peroxide up to 262 g/kg soil based on the contaminant mass in the baseline sample (Table 4-6). The peroxide dosages were targeted at peroxide:contaminant mass ratios of 10:1, 18:1, and 25:1. The resultant peroxide:contaminant mass ratios based upon the control sample are calculated and compared with the oxidant dose in terms of grams of H₂O₂ per kilogram of soil, on Table 4-6.

The VOC results for SS-41 show a sharp reduction in mass at the lowest peroxide dose of 105 g/kg soil (corresponding to >99% mass reduction) and then becomes asymptotic with peroxide dose (Figure 4-3).

Trichloroethylene, contributing to most of the VOC mass, decreased from 530 mg/kg soil in the control to less than 0.3 mg/kg soil at all peroxide dosages used. The VOC mass plotted in Figure 4-3 and 4-4 only includes those compounds not already included in the VPH and EPH mass. Based on the control contaminant mass, peroxide dosages range from 81 to 203 g H₂O₂ per gram contaminant mass. The highest overall reduction of 73.8% corresponded to the middle peroxide dosage of 146 g H₂O₂ per gram contaminant mass (Table 4-5).



4.4.2. SS-42 Oxidation Tests

Reactors for SS-42 received a dosage of peroxide up to 251 g/kg soil based on the contaminant mass in the baseline sample (Table 4-8). The peroxide dosages were targeted at peroxide:contaminant mass ratios of 10:1, 18:1, and 25:1. The resultant peroxide:contaminant mass ratios based upon the control sample are calculated and compared with the oxidant dose in terms of grams of H₂O₂ per kilogram of soil, on Table 4-8.

The VOC results for SS-42 show a sharp reduction in mass at the lowest peroxide dose of 100 g/kg soil (corresponding to >99% mass reduction) and then becomes asymptotic with peroxide dose (Figure 4-4). Similar to SS-41, TCE comprises most of the VOC mass with concentrations in the soil decreasing from 57 mg/kg soil in the control to less than the detection limit of 0.058 mg/kg soil in Test 1. The other two tests showed similar reduction in TCE. Based on the control contaminant mass, peroxide dosages ranged

from 23 to 57 g H₂O₂ per gram contaminant mass. As compared to the control, the highest overall reduction of 94.4% corresponded with the middle test, which received 41 g H₂O₂ per gram contaminant mass (Table 4-7).

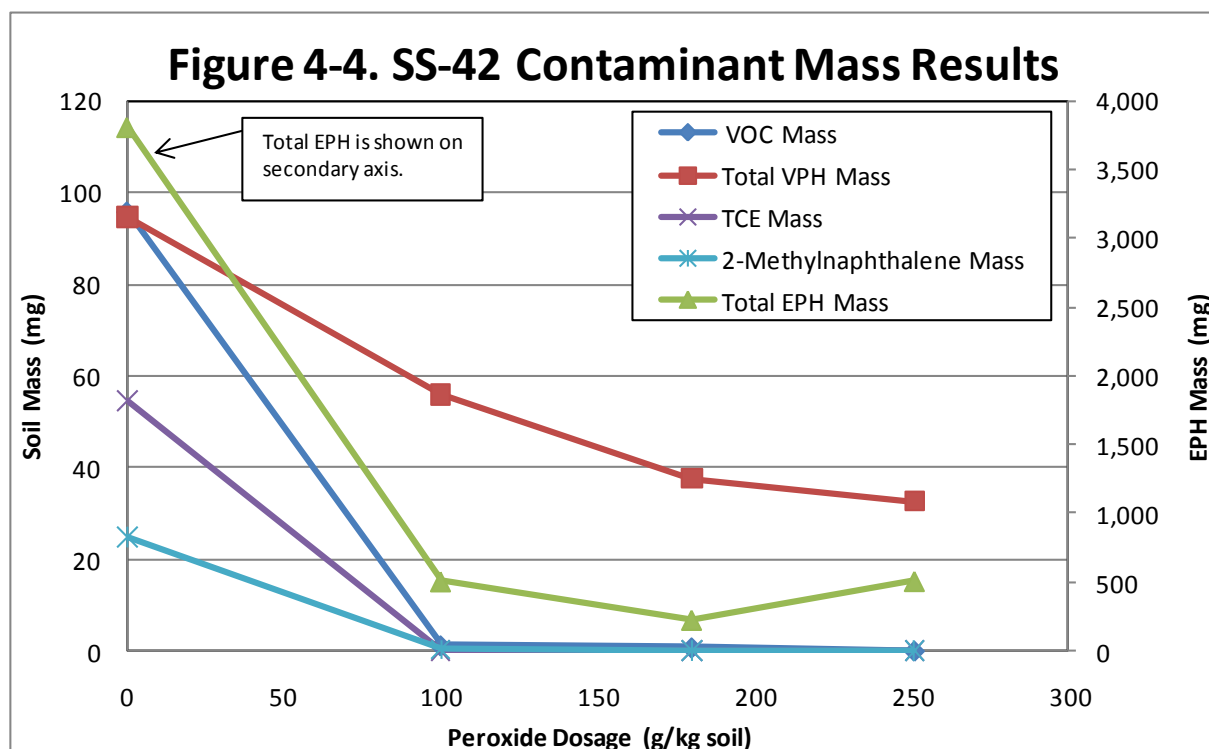


Table 4-3. SS-41: Test Series Analytical Data

Only detected analytes are shown; full analytical report is included in the Appendix.

Sample Oxidant Dose Analyte/Phase/Units	SS-41 Soil									
	Baseline		Control		Test 1		Test 2		Test 3	
	Zero		Zero		105 g H ₂ O ₂ / kg Soil		189 g H ₂ O ₂ / kg Soil		262 g H ₂ O ₂ / kg Soil	
	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)
VOCs										
Acetone	BDL (<28)	BDL (<5000)	BDL (<660)	BDL (<5000)	BDL (<3.3)	BDL (<2500)	BDL (<1.7)	480	BDL (<2.8)	BDL (<2500)
Benzene	BDL (<0.56)	140	BDL (<13)	BDL (<100)	BLD (<0.066)	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
n-Butylbenzene	4.3	BDL (<100)	BDL (<13)	150	0.5	BDL (<50)	0.13	BDL (<1.0)	0.069	BDL (<50)
sec-Butylbenzene	3.2	BDL (<100)	BDL (<13)	140	0.3	BDL (<50)	0.062	BDL (<1.0)	BDL (<0.057)	BDL (<50)
Ethylbenzene	3.1	BDL (<100)	BDL (<13)	BDL (<100)	BLD (<0.066)	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
Isopropylbenzene	2.2	BDL (<100)	BDL (<13)	BDL (<100)	BLD (<0.066)	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
p-Isopropyltoluene	2.2	BDL (<100)	BDL (<13)	100	0.24	BDL (<50)	0.05	BDL (<1.0)	BDL (<0.057)	BDL (<50)
2-Butanone (MEK)	BDL (<5.6)	BDL (<1000)	BDL (<130)	BDL (<1000)	BDL (<0.66)	BDL (<500)	BDL (<0.034)	33	BDL (<0.57)	BDL (<500)
Naphthalene	4.2	BDL (<500)	BDL (<66)	BDL (<500)	0.81	BDL (<250)	BDL (<0.17)	BDL (<1.0)	BDL (<0.28)	BDL (<250)
n-Propylbenzene	4.3	BDL (<100)	BDL (<13)	160	0.086	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
1,1,1-Trichloroethane	BDL (<0.56)	460	BDL (<13)	120	BDL (<0.066)	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
Trichloroethene	430	13,000	530	36000	0.30	74	0.22	2.7	BDL (<0.057)	BDL (<50)
1,2,4-Trimethylbenzene	6.0	BDL (<100)	15	480	0.29	BDL (<50)	0.039	BDL (<1.0)	BDL (<0.057)	BDL (<50)
1,2,3-Trimethylbenzene	10	BDL (<100)	BDL (<13)	390	0.16	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
1,3,5-Trimethylbenzene	7.9	BDL (<100)	BDL (<13)	330	0.18	BDL (<50)	BDL (<0.034)	BDL (<1.0)	BDL (<0.057)	BDL (<50)
Xylenes, Total	7.9	BDL (<300)	BDL (<40)	520	BDL (<0.20)	BDL (<150)	BDL (<0.10)	BDL (<3.0)	BDL (<0.17)	BDL (<150)
SVOCs (Base Neutrals)										
Acenaphthene	1.8	7.6	0.89	BDL (<1.0)	0.18	BDL (<1.0)	0.082	BDL (<1.0)	0.079	BDL (<1.0)
Acenaphthylene	0.53	BDL (<1.0)	0.29	BDL (<1.0)	BDL (<0.056)	BDL (<1.0)	BDL (<0.051)	BDL (<1.0)	BDL (<0.047)	BDL (<1.0)
Anthracene	BDL (<0.40)	5.6	BDL (<0.24)	5.3	BDL (<0.056)	4.8	BDL (<0.051)	1.2	BDL (<0.047)	5.5
Fluoranthene	BDL (<0.40)	BDL (<1.0)	BDL (<0.24)	2.1	BDL (<0.056)	2.1	BDL (<0.051)	BDL (<1.0)	BDL (<0.047)	2.2
Fluorene	1.8	8.0	0.76	BDL (<1.0)	0.18	BDL (<1.0)	0.093	BDL (<1.0)	0.076	BDL (<1.0)
2-Methylnaphthalene	15	180	16	390	0.54	18	BDL (<0.051)	1.6	BDL (<0.047)	BDL (<1.0)
Naphthalene	0.92	77	2.2	78	BDL (<0.056)	BDL (<1.0)	BDL (<0.051)	BDL (<1.0)	BDL (<0.047)	BDL (<1.0)
Phenanthrene	8.1	12	2.9	100	0.57	34	0.20	4.1	BDL (<0.047)	14
Bis(2-ethylhexyl)phthalate	BDL (<4.1)	BDL (<3.0)	BDL (<2.4)	3.0	BDL (<0.56)	BDL (<3.0)	BDL (<0.52)	BDL (<3.0)	BDL (<0.48)	BDL (<3.0)
Pyrene	0.56	BDL (<1.0)	BDL (<0.24)	7.6	0.081	6.9	BDL (<0.051)	1.2	BDL (<0.047)	6.9
VPH	420	6,100	200	22000	76	4300	68	760	34	3100
C5-C8 Aliphatics	220	5,600	100	13000	9.9	BDL (<500)	BDL (<6.7)	BDL (<100)	BDL (<5.7)	BDL (<100)
C9-C12 Aliphatics	440	1,100	230	12000	110	5800	94	960	52	4300
C9-C10 Aromatics	260	640	130	4300	40	1700	34	300	20	1200
EPH	12,000	2,500	690	130000	620	150000	400	20000	270	180000
C9-C18 Aliphatics	7,600	1,100	400	76000	390	93000	250	12000	170	120000
C19-C36 Aliphatics	1,700	240	100	18000	110	24000	68	3800	50	33000
C11-C22 Aromatics	2,600	1,200	190	33000	120	31000	84	3700	49	25000

Indicates compound is included in either the VPH or the EPH analysis

Table 4-4. SS-42: Test Series Analytical Data

Only detected analytes are shown; full analytical report is included in the Appendix.

Sample Oxidant Dose Analyte/Phase/Units	SS-42 Soil									
	Baseline		Control		Test 1		Test 2		Test 3	
	Zero		Zero		100 g H ₂ O ₂ / kg Soil		180 g H ₂ O ₂ / kg Soil		251 g H ₂ O ₂ / kg Soil	
	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)	Soil (mg/Kg)	Water (ug/L)
VOCs										
Acetone	BDL (<14)	BDL (<5000)	BDL (<2.1)	BDL (<5000)	BDL (<2.9)	BDL (<2500)	0.099	560	BDL (<2.7)	BDL (<1000)
Benzene	BDL (<0.28)	140	BDL (<0.042)	BDL (<100)	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
n-Butylbenzene	3.9	BDL (<100)	0.77	260	0.18	63	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
sec-Butylbenzene	4.0	BDL (<100)	0.84	270	0.099	BDL (<50)	0.0021	BDL (<1.0)	BDL (<0.054)	BDL (<20)
Tert-Butylbenzene	BDL (<0.28)	BDL (<1000)	0.060	BDL (<100)	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
Ethylbenzene	1.4	BDL (<100)	0.18	BDL (<100)	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
Isopropylbenzene	2.9	BDL (<100)	0.60	170	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
p-Isopropyltoluene	2.8	BDL (<100)	0.53	180	0.077	BDL (<50)	0.0025	BDL (<1.0)	BDL (<0.054)	BDL (<20)
2-Butanone (MEK)	BDL (<2.8)	BDL (<100)	BDL (<0.42)	BDL (<1000)	BDL (<0.58)	BDL (<500)	BDL (<0.0014)	40	BDL (<0.54)	BDL (<200)
Naphthalene	12	BDL (<500)	4.4	1500	0.62	BDL (<250)	BDL (<0.0069)	BDL (<5.0)	BDL (<0.27)	BDL (<100)
n-Propylbenzene	4.4	BDL (<100)	0.98	280	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
1,1,1-Trichloroethane	1.1	460	0.33	210	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
Trichloroethene	86	13,000	57	12000	BDL (<0.058)	BDL (<50)	0.0033	BDL (<1.0)	BDL (<0.054)	BDL (<20)
1,2,4-Trimethylbenzene	18	BDL (<100)	6.0	1800	0.12	BDL (<50)	0.0022	BDL (<1.0)	BDL (<0.054)	BDL (<20)
1,2,3-Trimethylbenzene	9.7	BDL (<100)	2.2	780	BDL (<0.058)	BDL (<50)	0.0019	BDL (<1.0)	BDL (<0.054)	BDL (<20)
1,3,5-Trimethylbenzene	2.8	BDL (<100)	1.1	360	BDL (<0.058)	BDL (<50)	BDL (<0.0014)	BDL (<1.0)	BDL (<0.054)	BDL (<20)
Xylenes, Total	10	BDL (<300)	2.3	760	BDL (0.17)	BDL (<150)	BDL (<0.0014)	BDL (<3.0)	BDL (<0.16)	BDL (<60)
SVOCs (Base Neutrals)										
Acenaphthene	1.8	7.6	0.66	680	0.12	78	BDL (<0.045)	BDL (<1.0)	0.077	BDL (<1.0)
Acenaphthylene	0.47	BDL (<1.0)	BDL (<0.050)	120	BDL (<0.053)	BDL (<20)	BDL (<0.045)	BDL (<1.0)	BDL (<0.048)	BDL (<1.0)
Anthracene	0.44	5.6	0.072	71	BDL (<0.053)	29	0.087	BDL (<1.0)	0.17	BDL (<1.0)
Benzo(a)anthracene	BDL (<4.0)	BDL (<1.0)	BDL (<0.050)	2.1	BDL (<0.053)	BDL (<1.0)	BDL (<0.045)	BDL (<1.0)	BDL (<0.048)	BDL (<1.0)
Fluorene	2.7	8.0	0.71	760	0.19	110	0.070	BDL (<1.0)	0.12	BDL (<1.0)
2-Methylnaphthalene	29	180	10	11000	0.16	110	BDL (<0.045)	BDL (<1.0)	BDL (<0.048)	BDL (<1.0)
Naphthalene	5.2	77	BDL (<0.050)	2000	BDL (<0.053)	BDL (<20)	BDL (<0.045)	BDL (<1.0)	BDL (<0.048)	BDL (<1.0)
Phenanthrene	5.7	12	1.4	2100	0.43	250	0.072	3.4	0.13	16
Pyrene	0.79	BDL (<1.0)	0.13	140	0.099	58	BDL (<0.045)	1.0	0.081	7.0
VPH	380	6,100	93	24000	45	18000	34	9000	51	530
C5-C8 Aliphatics	140	5,600	18	7200	BDL (<5.8)	1300	BDL (<5.1)	BDL (<1000)	BDL (<5.4)	100
C9-C12 Aliphatics	510	1,100	160	28000	62	22000	50	11000	70	620
C9-C10 Aromatics	340	640	90	12000	24	5800	18	2800	23	190
EPH	12,000	2,500	390	2200000	370	140000	260	8500	460	110000
C9-C18 Aliphatics	7,300	1,100	210	1400000	220	870000	160	5100	290	67000
C19-C36 Aliphatics	1,300	240	53	270000	56	180000	41	1400	70	20000
C11-C22 Aromatics	2,900	1,200	120	480000	89	310000	50	2000	100	22000

Indicates compound is included in either the VPH or the EPH analysis

Table 4-5. SS-41: Contaminant Mass Calculations

Only detected analytes are shown; full analytical report is included in the Appendix.

Sample Oxidant Dose Analyte / Phase / Units	Test Control		Test 1		Test 2		Test 3	
	Zero		105 g H ₂ O ₂ / kg Soil		189 g H ₂ O ₂ / kg Soil		262 g H ₂ O ₂ / kg Soil	
	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)
Contaminant Mass Calculations								
Total VOC Mass by Phase (mg)	361	63	0.65	0.13	0.27	0.0046	0.048	0.0
Total VOC Mass (mg)	424		0.78		0.27		0.048	
Total VOC Mass Reduction from Control (%)			99.8%		99.9%		100.0%	
Total VPH Mass by Phase (mg)	136	37.4	45	7.3	44	1.29	24	5.3
Total VPH Mass (mg)	174		52		45		29	
Total VPH Mass Reduction from Control (%)			69.8%		74.0%		83.4%	
Total EPH Mass by Phase (mg)	471	221	368	255	258	34.0	188	306.0
Total EPH Mass (mg)	692		623		292		494	
Total EPH Mass Reduction from Control (%)			9.9%		57.8%		28.6%	
Total Mass (mg)	1,290		677		337		523	
Total Mass Reduction from Control (mg)			47.5%		73.8%		59.5%	

Table 4-6. SS-41: Calculation of Actual Peroxide Dosages

Control Contaminant Mass (mg)	H ₂ O ₂ Mass (g)	Peroxide Dose (g H ₂ O ₂ / kg Soil)	Actual H ₂ O ₂ :Contaminant Mass Ratios (g/g)
1290	105	105	81
1290	189	189	146
1290	262	262	203

Table 4-7. SS-42: Contaminant Mass Calculations

Only detected analytes are shown; full analytical report is included in the Appendix.

Sample Oxidant Dose Analyte / Phase / Units	Test Control		Test 1		Test 2		Test 3	
	Zero		100 g H ₂ O ₂ / kg Soil		180 g H ₂ O ₂ / kg Soil		251 g H ₂ O ₂ / kg Soil	
	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)	Soil (mg/kg)	Water (µg/L)
Contaminant Mass Calculations								
Total VOC Mass by Phase (mg)	37	23	0.16	0.11	0.0035	BDL	BDL	BDL
Total VOC Mass (mg)	60		0.26		0.0035		BDL	
Total VOC Mass Reduction from Control (%)			99.6%		100.0%		>99.9%	
Total VPH Mass by Phase (mg)	54	41	25	30.6	22	15.3	32	0.90
Total VPH Mass (mg)	95		56		38		33	
Total VPH Mass Reduction from Control (%)			40.9%		60.3%		65.6%	
Total EPH Mass by Phase (mg)	72	3740	208	238	170	14.5	285	187
Total EPH Mass (mg)	3,812		446		185		472	
Total EPH Mass Reduction from Control (%)			88.3%		95.2%		87.6%	
Total Mass (mg)	3,966		503		222		505	
Total Mass Reduction from Control (mg)			87.3%		94.4%		87.3%	

Table 4-8. SS-42: Calculation of Actual Peroxide Dosages

Control Contaminant Mass (mg)	H ₂ O ₂ Mass (g)	Peroxide Dose (g H ₂ O ₂ / kg Soil)	Actual H ₂ O ₂ :Contaminant Mass Ratios (g/g)
3966	90	100	23
3966	162	180	41
3966	226	251	57

5. Conclusions

A chemical oxidation bench test was completed to evaluate the application of CHP (also known as Fenton's reagent or modified Fenton's reagent) with the Geo-Cleanse® Process to address impacts in soil and groundwater from the CTS of Asheville, Inc. Superfund Site. Specific objectives of the bench were:

- (1) Determine the effectiveness of CHP to treat the saturated zone contamination and estimate the associated oxidant demand.
- (2) Assess the buffering capacity of the soil. This is important to determine if an acidic catalyst system provides the optimal approach for a field application.
- (3) Assess natural reactivity of the soil towards hydrogen peroxide. This is important to assess the amount of reactive iron and other transition metals naturally available in the soil, which affects the amount of iron and/or stabilizer needed.
- (4) Generate treatability data sufficient to estimate field-scale treatment costs on the basis of the bench-scale test results.

Conclusions for these objectives are presented in the following sections. Overall conclusions are presented in Section 5.4.

5.1. Soil Buffering Capacity

For the CHP treatment program, acid titration tests were performed with dilute sulfuric and phosphoric acids on soil from the site as part of the development of a site-specific reagent formulation. The results indicate that the soils have a low buffering capacity. This is advantageous because the groundwater pH can be reduced to the optimal CHP range of about 4-6 and maintained.

5.2. Soil Reactivity

Soil samples were acidified and reacted with hydrogen peroxide as part of the development of a site-specific reagent formulation. These tests determine if naturally-occurring iron and other transition metals in the soil are present that react with hydrogen peroxide. The tests indicate that reactive iron or other transition metals are present, but in relatively limited quantities. This indicates that iron may be necessary as part of a field application. The iron/stabilizer system will need to be monitored throughout the process with a detailed process monitoring program.

5.3. Contaminant Degradation and Oxidant Demand

In all Oxidation reactors trichloroethene showed dramatic reductions across all peroxide dosages in both test series. VOC reductions, primarily consisting of TCE, showed >99% reductions in all reactors. Both soil samples, SS-41 (silty sand) and SS-42 (sandy) showed the greatest total mass reduction at the middle oxidant dosage corresponding to 73.8% and 94.4% respectively. For SS-41, the middle peroxide dosage of 146 g H₂O₂ per kg soil showed 74.0% mass reduction in VPH and 73.8% mass reduction in EPH. For

SS-42, the middle peroxide dosage of 180 g H₂O₂ per kg soil showed a 60.3% reduction in VPH and 95.2% reduction in EPH.

5.4. Overall Conclusions

Based upon the results of the bench test, in-situ chemical oxidation treatment using CHP appears to be a viable technology for consideration at the CTS of Asheville, Inc. Superfund Site. At the bench-scale level, the CHP results demonstrate that:

- (1) The native soil characteristics (low pH buffering capacity and not reactive towards hydrogen peroxide) are suitable for CHP.
- (2) Under the chemical conditions established for the soil and groundwater utilized in the tests the greatest reductions were seen at the middle oxidant dosage resulting in overall mass reductions of 73.8% and 94.4% respectively for SS-41 and SS-42.
- (3) The primary VOC, TCE, showed >99% reductions in all reactors that received peroxide.

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Appendix A: ESC Analytical Reports



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Suite B
Matawan, NJ 07747

Report Summary

Friday April 17, 2015

Report Number: L758231

Samples Received: 04/09/15

Client Project:

Description: NC Bench Testing

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-41)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:12

ESC Sample # : L758231-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.4		%	2540 G-2011	04/10/15	1
Volatile Petroleum Hydrocarbons	420	5.6	mg/kg	MADEPV	04/13/15	46
C5-C8 Aliphatics	220	5.6	mg/kg	MADEPV	04/13/15	46
C9-C12 Aliphatics	440	5.6	mg/kg	MADEPV	04/13/15	46
C9-C10 Aromatics	260	23.	mg/kg	MADEPV	04/14/15	184
Surrogate Recovery						
2,5-Dibromotoluene(FID)	37.6		% Rec.	MADEPV	04/13/15	1
2,5-Dibromotoluene(PID)	45.7		% Rec.	MADEPV	04/13/15	1
Volatile Organics						
Acetone	BDL	28.	mg/kg	8260B	04/14/15	460
Acrylonitrile	BDL	5.6	mg/kg	8260B	04/14/15	460
Benzene	BDL	0.56	mg/kg	8260B	04/14/15	460
Bromobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
Bromodichloromethane	BDL	0.56	mg/kg	8260B	04/14/15	460
Bromoform	BDL	0.56	mg/kg	8260B	04/14/15	460
Bromomethane	BDL	2.8	mg/kg	8260B	04/14/15	460
n-Butylbenzene	4.3	0.56	mg/kg	8260B	04/14/15	460
sec-Butylbenzene	3.2	0.56	mg/kg	8260B	04/14/15	460
tert-Butylbenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
Carbon tetrachloride	BDL	0.56	mg/kg	8260B	04/14/15	460
Chlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
Chlorodibromomethane	BDL	0.56	mg/kg	8260B	04/14/15	460
Chloroethane	BDL	2.8	mg/kg	8260B	04/14/15	460
2-Chloroethyl vinyl ether	BDL	28.	mg/kg	8260B	04/14/15	460
Chloroform	BDL	2.8	mg/kg	8260B	04/14/15	460
Chloromethane	BDL	1.4	mg/kg	8260B	04/14/15	460
2-Chlorotoluene	BDL	0.56	mg/kg	8260B	04/14/15	460
4-Chlorotoluene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,2-Dibromo-3-Chloropropane	BDL	2.8	mg/kg	8260B	04/14/15	460
1,2-Dibromoethane	BDL	0.56	mg/kg	8260B	04/14/15	460
Dibromomethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,2-Dichlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,3-Dichlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,4-Dichlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
Dichlorodifluoromethane	BDL	2.8	mg/kg	8260B	04/14/15	460
1,1-Dichloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,2-Dichloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1-Dichloroethene	BDL	0.56	mg/kg	8260B	04/14/15	460
cis-1,2-Dichloroethene	BDL	0.56	mg/kg	8260B	04/14/15	460
trans-1,2-Dichloroethene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,2-Dichloropropane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1-Dichloropropene	BDL	0.56	mg/kg	8260B	04/14/15	460

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L758231-01 (VPH) - Surrogate failures due to matrix interference.



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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-41)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:12

ESC Sample # : L758231-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.56	mg/kg	8260B	04/14/15	460
cis-1,3-Dichloropropene	BDL	0.56	mg/kg	8260B	04/14/15	460
trans-1,3-Dichloropropene	BDL	0.56	mg/kg	8260B	04/14/15	460
2,2-Dichloropropane	BDL	0.56	mg/kg	8260B	04/14/15	460
Di-isopropyl ether	BDL	0.56	mg/kg	8260B	04/14/15	460
Ethylbenzene	3.1	0.56	mg/kg	8260B	04/14/15	460
Hexachloro-1,3-butadiene	BDL	0.56	mg/kg	8260B	04/14/15	460
Isopropylbenzene	2.2	0.56	mg/kg	8260B	04/14/15	460
p-Isopropyltoluene	2.2	0.56	mg/kg	8260B	04/14/15	460
2-Butanone (MEK)	BDL	5.6	mg/kg	8260B	04/14/15	460
Methylene Chloride	BDL	2.8	mg/kg	8260B	04/14/15	460
4-Methyl-2-pentanone (MIBK)	BDL	5.6	mg/kg	8260B	04/14/15	460
Methyl tert-butyl ether	BDL	0.56	mg/kg	8260B	04/14/15	460
Naphthalene	4.2	2.8	mg/kg	8260B	04/14/15	460
n-Propylbenzene	4.3	0.56	mg/kg	8260B	04/14/15	460
Styrene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1,1,2-Tetrachloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1,2,2-Tetrachloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1,2-Trichlorotrifluoroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
Tetrachloroethene	BDL	0.56	mg/kg	8260B	04/14/15	460
Toluene	BDL	2.8	mg/kg	8260B	04/14/15	460
1,2,3-Trichlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,2,4-Trichlorobenzene	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1,1-Trichloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
1,1,2-Trichloroethane	BDL	0.56	mg/kg	8260B	04/14/15	460
Trichloroethene	430	11.	mg/kg	8260B	04/14/15	9200
Trichlorofluoromethane	BDL	2.8	mg/kg	8260B	04/14/15	460
1,2,3-Trichloropropane	BDL	1.4	mg/kg	8260B	04/14/15	460
1,2,4-Trimethylbenzene	6.0	0.56	mg/kg	8260B	04/14/15	460
1,2,3-Trimethylbenzene	10.	0.56	mg/kg	8260B	04/14/15	460
Vinyl chloride	BDL	0.56	mg/kg	8260B	04/14/15	460
1,3,5-Trimethylbenzene	7.9	0.56	mg/kg	8260B	04/14/15	460
Xylenes, Total	7.9	1.7	mg/kg	8260B	04/14/15	460
Surrogate Recovery						
Toluene-d8	83.3		% Rec.	8260B	04/14/15	1
Dibromofluoromethane	103.		% Rec.	8260B	04/14/15	1
4-Bromofluorobenzene	114.		% Rec.	8260B	04/14/15	1
Extractable Petroleum Hydrocarb	12000	160	mg/kg	MADEPE	04/13/15	20
C9-C18 Aliphatics	7600	160	mg/kg	MADEPE	04/13/15	20
C19-C36 Aliphatics	1700	160	mg/kg	MADEPE	04/13/15	20
C11-C22 Aromatics	2600	160	mg/kg	MADEPE	04/13/15	20
Surrogate Recovery						
o-Terphenyl	56.8		% Rec.	MADEPE	04/13/15	20

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Fax (615) 758-5859

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-41)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:12

ESC Sample # : L758231-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	78.8		% Rec.	MADEPE	04/13/15	20
2-Fluorobiphenyl	128.		% Rec.	MADEPE	04/13/15	20
2-Bromonaphthalene	214.		% Rec.	MADEPE	04/13/15	20
Base/Neutral Extractables						
Acenaphthene	1.8	0.40	mg/kg	8270D	04/10/15	10
Acenaphthylene	0.53	0.40	mg/kg	8270D	04/10/15	10
Anthracene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzidine	BDL	4.1	mg/kg	8270D	04/10/15	10
Benzo(a)anthracene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(b)fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(k)fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(g,h,i)perylene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(a)pyrene	BDL	0.40	mg/kg	8270D	04/10/15	10
Bis(2-chlorethoxy)methane	BDL	4.1	mg/kg	8270D	04/10/15	10
Bis(2-chloroethyl)ether	BDL	4.1	mg/kg	8270D	04/10/15	10
Bis(2-chloroisopropyl)ether	BDL	4.1	mg/kg	8270D	04/10/15	10
4-Bromophenyl-phenylether	BDL	4.1	mg/kg	8270D	04/10/15	10
2-Chloronaphthalene	BDL	0.40	mg/kg	8270D	04/10/15	10
4-Chlorophenyl-phenylether	BDL	4.1	mg/kg	8270D	04/10/15	10
Chrysene	BDL	0.40	mg/kg	8270D	04/10/15	10
Dibenz(a,h)anthracene	BDL	0.40	mg/kg	8270D	04/10/15	10
1,2-Dichlorobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
1,3-Dichlorobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
1,4-Dichlorobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
3,3-Dichlorobenzidine	BDL	4.1	mg/kg	8270D	04/10/15	10
2,4-Dinitrotoluene	BDL	4.1	mg/kg	8270D	04/10/15	10
2,6-Dinitrotoluene	BDL	4.1	mg/kg	8270D	04/10/15	10
Fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Fluorene	1.8	0.40	mg/kg	8270D	04/10/15	10
Hexachlorobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
Hexachloro-1,3-butadiene	BDL	4.1	mg/kg	8270D	04/10/15	10
Hexachlorocyclopentadiene	BDL	4.1	mg/kg	8270D	04/10/15	10
Hexachloroethane	BDL	4.1	mg/kg	8270D	04/10/15	10
Indeno(1,2,3-cd)pyrene	BDL	0.40	mg/kg	8270D	04/10/15	10
Isophorone	BDL	4.1	mg/kg	8270D	04/10/15	10
Naphthalene	0.92	0.40	mg/kg	8270D	04/10/15	10
Nitrobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
n-Nitrosodimethylamine	BDL	4.1	mg/kg	8270D	04/10/15	10
n-Nitrosodiphenylamine	BDL	4.1	mg/kg	8270D	04/10/15	10
n-Nitrosodi-n-propylamine	BDL	4.1	mg/kg	8270D	04/10/15	10
Phenanthrene	8.1	0.40	mg/kg	8270D	04/10/15	10
Benzylbutyl phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10
Bis(2-ethylhexyl)phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10

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BDL - Below Detection Limit

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-41)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:12

ESC Sample # : L758231-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10
Diethyl phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10
Dimethyl phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10
Di-n-octyl phthalate	BDL	4.1	mg/kg	8270D	04/10/15	10
Pyrene	0.56	0.40	mg/kg	8270D	04/10/15	10
1,2,4-Trichlorobenzene	BDL	4.1	mg/kg	8270D	04/10/15	10
2-Methylnaphthalene	15.	0.40	mg/kg	8270D	04/10/15	10
Surrogate Recovery						
Nitrobenzene-d5	118.		% Rec.	8270D	04/10/15	10
2-Fluorobiphenyl	68.4		% Rec.	8270D	04/10/15	10
p-Terphenyl-d14	54.1		% Rec.	8270D	04/10/15	10

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Reported: 04/16/15 15:37 Revised: 04/17/15 09:40

L758231-01 (VPH) - Surrogate failures due to matrix interference.



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Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

April 17, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-42)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:23

ESC Sample # : L758231-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.6		%	2540 G-2011	04/10/15	1
Volatile Petroleum Hydrocarbons	380	5.6	mg/kg	MADEPV	04/13/15	46
C5-C8 Aliphatics	140	5.6	mg/kg	MADEPV	04/13/15	46
C9-C12 Aliphatics	510	5.6	mg/kg	MADEPV	04/13/15	46
C9-C10 Aromatics	340	22.	mg/kg	MADEPV	04/14/15	184
Surrogate Recovery						
2,5-Dibromotoluene(FID)	12.8		% Rec.	MADEPV	04/13/15	1
2,5-Dibromotoluene(PID)	23.4		% Rec.	MADEPV	04/13/15	1
Volatile Organics						
Acetone	BDL	14.	mg/kg	8260B	04/14/15	230
Acrylonitrile	BDL	2.8	mg/kg	8260B	04/14/15	230
Benzene	BDL	0.28	mg/kg	8260B	04/14/15	230
Bromobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
Bromodichloromethane	BDL	0.28	mg/kg	8260B	04/14/15	230
Bromoform	BDL	0.28	mg/kg	8260B	04/14/15	230
Bromomethane	BDL	1.4	mg/kg	8260B	04/14/15	230
n-Butylbenzene	3.9	0.28	mg/kg	8260B	04/14/15	230
sec-Butylbenzene	4.0	0.28	mg/kg	8260B	04/14/15	230
tert-Butylbenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
Carbon tetrachloride	BDL	0.28	mg/kg	8260B	04/14/15	230
Chlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
Chlorodibromomethane	BDL	0.28	mg/kg	8260B	04/14/15	230
Chloroethane	BDL	1.4	mg/kg	8260B	04/14/15	230
2-Chloroethyl vinyl ether	BDL	14.	mg/kg	8260B	04/14/15	230
Chloroform	BDL	1.4	mg/kg	8260B	04/14/15	230
Chloromethane	BDL	0.70	mg/kg	8260B	04/14/15	230
2-Chlorotoluene	BDL	0.28	mg/kg	8260B	04/14/15	230
4-Chlorotoluene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,2-Dibromo-3-Chloropropane	BDL	1.4	mg/kg	8260B	04/14/15	230
1,2-Dibromoethane	BDL	0.28	mg/kg	8260B	04/14/15	230
Dibromomethane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,2-Dichlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,3-Dichlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,4-Dichlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
Dichlorodifluoromethane	BDL	1.4	mg/kg	8260B	04/14/15	230
1,1-Dichloroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,2-Dichloroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1-Dichloroethene	BDL	0.28	mg/kg	8260B	04/14/15	230
cis-1,2-Dichloroethene	BDL	0.28	mg/kg	8260B	04/14/15	230
trans-1,2-Dichloroethene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,2-Dichloropropane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1-Dichloropropene	BDL	0.28	mg/kg	8260B	04/14/15	230

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-42)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:23

ESC Sample # : L758231-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.28	mg/kg	8260B	04/14/15	230
cis-1,3-Dichloropropene	BDL	0.28	mg/kg	8260B	04/14/15	230
trans-1,3-Dichloropropene	BDL	0.28	mg/kg	8260B	04/14/15	230
2,2-Dichloropropane	BDL	0.28	mg/kg	8260B	04/14/15	230
Di-isopropyl ether	BDL	0.28	mg/kg	8260B	04/14/15	230
Ethylbenzene	1.4	0.28	mg/kg	8260B	04/14/15	230
Hexachloro-1,3-butadiene	BDL	0.28	mg/kg	8260B	04/14/15	230
Isopropylbenzene	2.9	0.28	mg/kg	8260B	04/14/15	230
p-Isopropyltoluene	2.8	0.28	mg/kg	8260B	04/14/15	230
2-Butanone (MEK)	BDL	2.8	mg/kg	8260B	04/14/15	230
Methylene Chloride	BDL	1.4	mg/kg	8260B	04/14/15	230
4-Methyl-2-pentanone (MIBK)	BDL	2.8	mg/kg	8260B	04/14/15	230
Methyl tert-butyl ether	BDL	0.28	mg/kg	8260B	04/14/15	230
Naphthalene	12.	1.4	mg/kg	8260B	04/14/15	230
n-Propylbenzene	4.4	0.28	mg/kg	8260B	04/14/15	230
Styrene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1,1,2-Tetrachloroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1,2,2-Tetrachloroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1,2-Trichlorotrifluoroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
Tetrachloroethene	BDL	0.28	mg/kg	8260B	04/14/15	230
Toluene	BDL	1.4	mg/kg	8260B	04/14/15	230
1,2,3-Trichlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,2,4-Trichlorobenzene	BDL	0.28	mg/kg	8260B	04/14/15	230
1,1,1-Trichloroethane	1.1	0.28	mg/kg	8260B	04/14/15	230
1,1,2-Trichloroethane	BDL	0.28	mg/kg	8260B	04/14/15	230
Trichloroethene	86.	2.2	mg/kg	8260B	04/14/15	1840
Trichlorofluoromethane	BDL	1.4	mg/kg	8260B	04/14/15	230
1,2,3-Trichloropropane	BDL	0.70	mg/kg	8260B	04/14/15	230
1,2,4-Trimethylbenzene	18.	0.28	mg/kg	8260B	04/14/15	230
1,2,3-Trimethylbenzene	9.7	0.28	mg/kg	8260B	04/14/15	230
Vinyl chloride	BDL	0.28	mg/kg	8260B	04/14/15	230
1,3,5-Trimethylbenzene	2.8	0.28	mg/kg	8260B	04/14/15	230
Xylenes, Total	10.	0.84	mg/kg	8260B	04/14/15	230
Surrogate Recovery						
Toluene-d8	89.6		% Rec.	8260B	04/14/15	1
Dibromofluoromethane	103.		% Rec.	8260B	04/14/15	1
4-Bromofluorobenzene	112.		% Rec.	8260B	04/14/15	1
Extractable Petroleum Hydrocarb	12000	160	mg/kg	MADEPE	04/13/15	20
C9-C18 Aliphatics	7300	160	mg/kg	MADEPE	04/13/15	20
C19-C36 Aliphatics	1300	160	mg/kg	MADEPE	04/13/15	20
C11-C22 Aromatics	2900	160	mg/kg	MADEPE	04/13/15	20
Surrogate Recovery						
o-Terphenyl	51.1		% Rec.	MADEPE	04/13/15	20

Results listed are dry weight basis.

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Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

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April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-42)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:23

ESC Sample # : L758231-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	52.3		% Rec.	MADEPE	04/13/15	20
2-Fluorobiphenyl	143.		% Rec.	MADEPE	04/13/15	20
2-Bromonaphthalene	165.		% Rec.	MADEPE	04/13/15	20
Base/Neutral Extractables						
Acenaphthene	1.8	0.40	mg/kg	8270D	04/10/15	10
Acenaphthylene	0.47	0.40	mg/kg	8270D	04/10/15	10
Anthracene	0.44	0.40	mg/kg	8270D	04/10/15	10
Benzidine	BDL	4.0	mg/kg	8270D	04/10/15	10
Benzo(a)anthracene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(b)fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(k)fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(g,h,i)perylene	BDL	0.40	mg/kg	8270D	04/10/15	10
Benzo(a)pyrene	BDL	0.40	mg/kg	8270D	04/10/15	10
Bis(2-chlorethoxy)methane	BDL	4.0	mg/kg	8270D	04/10/15	10
Bis(2-chloroethyl)ether	BDL	4.0	mg/kg	8270D	04/10/15	10
Bis(2-chloroisopropyl)ether	BDL	4.0	mg/kg	8270D	04/10/15	10
4-Bromophenyl-phenylether	BDL	4.0	mg/kg	8270D	04/10/15	10
2-Chloronaphthalene	BDL	0.40	mg/kg	8270D	04/10/15	10
4-Chlorophenyl-phenylether	BDL	4.0	mg/kg	8270D	04/10/15	10
Chrysene	BDL	0.40	mg/kg	8270D	04/10/15	10
Dibenz(a,h)anthracene	BDL	0.40	mg/kg	8270D	04/10/15	10
1,2-Dichlorobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
1,3-Dichlorobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
1,4-Dichlorobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
3,3-Dichlorobenzidine	BDL	4.0	mg/kg	8270D	04/10/15	10
2,4-Dinitrotoluene	BDL	4.0	mg/kg	8270D	04/10/15	10
2,6-Dinitrotoluene	BDL	4.0	mg/kg	8270D	04/10/15	10
Fluoranthene	BDL	0.40	mg/kg	8270D	04/10/15	10
Fluorene	2.7	0.40	mg/kg	8270D	04/10/15	10
Hexachlorobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
Hexachloro-1,3-butadiene	BDL	4.0	mg/kg	8270D	04/10/15	10
Hexachlorocyclopentadiene	BDL	4.0	mg/kg	8270D	04/10/15	10
Hexachloroethane	BDL	4.0	mg/kg	8270D	04/10/15	10
Indeno(1,2,3-cd)pyrene	BDL	0.40	mg/kg	8270D	04/10/15	10
Isophorone	BDL	4.0	mg/kg	8270D	04/10/15	10
Naphthalene	5.2	0.40	mg/kg	8270D	04/10/15	10
Nitrobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
n-Nitrosodimethylamine	BDL	4.0	mg/kg	8270D	04/10/15	10
n-Nitrosodiphenylamine	BDL	4.0	mg/kg	8270D	04/10/15	10
n-Nitrosodi-n-propylamine	BDL	4.0	mg/kg	8270D	04/10/15	10
Phenanthrene	5.7	0.40	mg/kg	8270D	04/10/15	10
Benzylbutyl phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10
Bis(2-ethylhexyl)phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L758231-02 (VPH) - Surrogate failures due to matrix interference.



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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE SOIL (SS-42)
Collected By : Tyler Wooden
Collection Date : 04/08/15 15:23

ESC Sample # : L758231-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10
Diethyl phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10
Dimethyl phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10
Di-n-octyl phthalate	BDL	4.0	mg/kg	8270D	04/10/15	10
Pyrene	0.79	0.40	mg/kg	8270D	04/10/15	10
1,2,4-Trichlorobenzene	BDL	4.0	mg/kg	8270D	04/10/15	10
2-Methylnaphthalene	29.	0.40	mg/kg	8270D	04/10/15	10
Surrogate Recovery						
Nitrobenzene-d5	118.		% Rec.	8270D	04/10/15	10
2-Fluorobiphenyl	61.8		% Rec.	8270D	04/10/15	10
p-Terphenyl-d14	61.1		% Rec.	8270D	04/10/15	10

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 04/16/15 15:37 Revised: 04/17/15 09:40

L758231-02 (VPH) - Surrogate failures due to matrix interference.



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REPORT OF ANALYSIS

April 17, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE GW (MW-13)
Collected By : Tyler Wooden
Collection Date : 04/08/15 14:47

ESC Sample # : L758231-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	6100	100	ug/l	MADEPV	04/12/15	1
C5-C8 Aliphatics	5600	100	ug/l	MADEPV	04/12/15	1
C9-C12 Aliphatics	1100	100	ug/l	MADEPV	04/12/15	1
C9-C10 Aromatics	640	100	ug/l	MADEPV	04/12/15	1
Surrogate Recovery						
2,5-Dibromotoluene(FID)	93.2		% Rec.	MADEPV	04/12/15	1
2,5-Dibromotoluene(PID)	99.0		% Rec.	MADEPV	04/12/15	1
Volatile Organics						
Acetone	BDL	5000	ug/l	8260B	04/14/15	100
Acrolein	BDL	5000	ug/l	8260B	04/14/15	100
Acrylonitrile	BDL	1000	ug/l	8260B	04/14/15	100
Benzene	140	100	ug/l	8260B	04/14/15	100
Bromobenzene	BDL	100	ug/l	8260B	04/14/15	100
Bromodichloromethane	BDL	100	ug/l	8260B	04/14/15	100
Bromoform	BDL	100	ug/l	8260B	04/14/15	100
Bromomethane	BDL	500	ug/l	8260B	04/14/15	100
n-Butylbenzene	BDL	100	ug/l	8260B	04/14/15	100
sec-Butylbenzene	BDL	100	ug/l	8260B	04/14/15	100
tert-Butylbenzene	BDL	100	ug/l	8260B	04/14/15	100
Carbon tetrachloride	BDL	100	ug/l	8260B	04/14/15	100
Chlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
Chlorodibromomethane	BDL	100	ug/l	8260B	04/14/15	100
Chloroethane	BDL	500	ug/l	8260B	04/14/15	100
2-Chloroethyl vinyl ether	BDL	5000	ug/l	8260B	04/14/15	100
Chloroform	BDL	500	ug/l	8260B	04/14/15	100
Chloromethane	BDL	250	ug/l	8260B	04/14/15	100
2-Chlorotoluene	BDL	100	ug/l	8260B	04/14/15	100
4-Chlorotoluene	BDL	100	ug/l	8260B	04/14/15	100
1,2-Dibromo-3-Chloropropane	BDL	500	ug/l	8260B	04/14/15	100
1,2-Dibromoethane	BDL	100	ug/l	8260B	04/14/15	100
Dibromomethane	BDL	100	ug/l	8260B	04/14/15	100
1,2-Dichlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
1,3-Dichlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
1,4-Dichlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
Dichlorodifluoromethane	BDL	500	ug/l	8260B	04/14/15	100
1,1-Dichloroethane	BDL	100	ug/l	8260B	04/14/15	100
1,2-Dichloroethane	BDL	100	ug/l	8260B	04/14/15	100
1,1-Dichloroethene	BDL	100	ug/l	8260B	04/14/15	100
cis-1,2-Dichloroethene	BDL	100	ug/l	8260B	04/14/15	100
trans-1,2-Dichloroethene	BDL	100	ug/l	8260B	04/14/15	100
1,2-Dichloropropane	BDL	100	ug/l	8260B	04/14/15	100
1,1-Dichloropropene	BDL	100	ug/l	8260B	04/14/15	100
1,3-Dichloropropane	BDL	100	ug/l	8260B	04/14/15	100

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

April 17, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE GW (MW-13)
Collected By : Tyler Wooden
Collection Date : 04/08/15 14:47

ESC Sample # : L758231-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	100	ug/l	8260B	04/14/15	100
trans-1,3-Dichloropropene	BDL	100	ug/l	8260B	04/14/15	100
2,2-Dichloropropane	BDL	100	ug/l	8260B	04/14/15	100
Di-isopropyl ether	BDL	100	ug/l	8260B	04/14/15	100
Ethylbenzene	BDL	100	ug/l	8260B	04/14/15	100
Hexachloro-1,3-butadiene	BDL	100	ug/l	8260B	04/14/15	100
Isopropylbenzene	BDL	100	ug/l	8260B	04/14/15	100
p-Isopropyltoluene	BDL	100	ug/l	8260B	04/14/15	100
2-Butanone (MEK)	BDL	1000	ug/l	8260B	04/14/15	100
Methylene Chloride	BDL	500	ug/l	8260B	04/14/15	100
4-Methyl-2-pentanone (MIBK)	BDL	1000	ug/l	8260B	04/14/15	100
Methyl tert-butyl ether	BDL	100	ug/l	8260B	04/14/15	100
Naphthalene	BDL	500	ug/l	8260B	04/14/15	100
n-Propylbenzene	BDL	100	ug/l	8260B	04/14/15	100
Styrene	BDL	100	ug/l	8260B	04/14/15	100
1,1,1,2-Tetrachloroethane	BDL	100	ug/l	8260B	04/14/15	100
1,1,2,2-Tetrachloroethane	BDL	100	ug/l	8260B	04/14/15	100
1,1,2-Trichlorotrifluoroethane	BDL	100	ug/l	8260B	04/14/15	100
Tetrachloroethene	BDL	100	ug/l	8260B	04/14/15	100
Toluene	BDL	500	ug/l	8260B	04/14/15	100
1,2,3-Trichlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
1,2,4-Trichlorobenzene	BDL	100	ug/l	8260B	04/14/15	100
1,1,1-Trichloroethane	460	100	ug/l	8260B	04/14/15	100
1,1,2-Trichloroethane	BDL	100	ug/l	8260B	04/14/15	100
Trichloroethene	13000	100	ug/l	8260B	04/14/15	100
Trichlorofluoromethane	BDL	500	ug/l	8260B	04/14/15	100
1,2,3-Trichloropropane	BDL	250	ug/l	8260B	04/14/15	100
1,2,4-Trimethylbenzene	BDL	100	ug/l	8260B	04/14/15	100
1,2,3-Trimethylbenzene	BDL	100	ug/l	8260B	04/14/15	100
1,3,5-Trimethylbenzene	BDL	100	ug/l	8260B	04/14/15	100
Vinyl chloride	BDL	100	ug/l	8260B	04/14/15	100
Xylenes, Total	BDL	300	ug/l	8260B	04/14/15	100
Surrogate Recovery						
Toluene-d8	107.		% Rec.	8260B	04/14/15	1
Dibromofluoromethane	110.		% Rec.	8260B	04/14/15	1
4-Bromofluorobenzene	96.7		% Rec.	8260B	04/14/15	1
Extractable Petroleum Hydrocarb	2500	100	ug/l	MADEPE	04/11/15	1
C9-C18 Aliphatics	1100	100	ug/l	MADEPE	04/11/15	1
C19-C36 Aliphatics	240	100	ug/l	MADEPE	04/11/15	1
C11-C22 Aromatics	1200	100	ug/l	MADEPE	04/11/15	1
Surrogate Recovery						
o-Terphenyl	57.4		% Rec.	MADEPE	04/11/15	1
1-Chloro-octadecane	56.0		% Rec.	MADEPE	04/11/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

April 17, 2015

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE GW (MW-13)
Collected By : Tyler Wooden
Collection Date : 04/08/15 14:47

ESC Sample # : L758231-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	83.0		% Rec.	MADEPE	04/11/15	1
2-Bromonaphthalene	108.		% Rec.	MADEPE	04/11/15	1
Base/Neutral Extractables						
Acenaphthene	7.6	1.0	ug/l	8270D	04/10/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/10/15	1
Anthracene	5.6	1.0	ug/l	8270D	04/10/15	1
Benzidine	BDL	10.	ug/l	8270D	04/10/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/10/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/10/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/10/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/10/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/10/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/10/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/10/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/10/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/10/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/10/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/10/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/10/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/10/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/10/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/10/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/10/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/10/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/10/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/10/15	1
Fluoranthene	BDL	1.0	ug/l	8270D	04/10/15	1
Fluorene	8.0	1.0	ug/l	8270D	04/10/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/10/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/10/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/10/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/10/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/10/15	1
Isophorone	BDL	10.	ug/l	8270D	04/10/15	1
Naphthalene	77.	1.0	ug/l	8270D	04/10/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/10/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/10/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/10/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/10/15	1
Phenanthrene	12.	1.0	ug/l	8270D	04/10/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/10/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/10/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/10/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

April 17, 2015

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Matawan, NJ 07747

Date Received : April 09, 2015
Description : NC Bench Testing
Sample ID : BASELINE GW (MW-13)
Collected By : Tyler Wooden
Collection Date : 04/08/15 14:47

ESC Sample # : L758231-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/10/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/10/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/10/15	1
Pyrene	BDL	1.0	ug/l	8270D	04/10/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/10/15	1
2-Methylnaphthalene	180	1.0	ug/l	8270D	04/10/15	1
Surrogate Recovery						
Nitrobenzene-d5	67.3		% Rec.	8270D	04/10/15	1
2-Fluorobiphenyl	69.4		% Rec.	8270D	04/10/15	1
p-Terphenyl-d14	77.0		% Rec.	8270D	04/10/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Reported: 04/16/15 15:37 Revised: 04/17/15 09:40

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L758231-01	WG781042	SAMP	2,5-Dibromotoluene(FID)	R3030567	J2
	WG781042	SAMP	2,5-Dibromotoluene(PID)	R3030567	J2
	WG781266	SAMP	o-Terphenyl	R3030540	J7
	WG781266	SAMP	1-Chloro-octadecane	R3030540	J7
	WG781266	SAMP	2-Fluorobiphenyl	R3030540	J7
	WG781266	SAMP	2-Bromonaphthalene	R3030540	J7
	WG781309	SAMP	2-Chloroethyl vinyl ether	R3030577	J4
	WG781309	SAMP	Naphthalene	R3030577	J4
	WG781309	SAMP	Toluene-d8	R3030577	J2
	WG781042	SAMP	2,5-Dibromotoluene(FID)	R3030567	J2
	WG781042	SAMP	2,5-Dibromotoluene(PID)	R3030567	J2
	WG781266	SAMP	o-Terphenyl	R3030540	J7
L758231-02	WG781266	SAMP	1-Chloro-octadecane	R3030540	J7
	WG781266	SAMP	2-Fluorobiphenyl	R3030540	J7
	WG781266	SAMP	2-Bromonaphthalene	R3030540	J7
	WG781309	SAMP	2-Chloroethyl vinyl ether	R3030577	J4
	WG781309	SAMP	Naphthalene	R3030577	J4
	WG781219	SAMP	2-Methylnaphthalene	R3030326	E

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
E	GTL (EPA) - Greater than upper calibration limit: Actual value is known to be greater than the upper calibration range.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J4	The associated batch QC was outside the established quality control range for accuracy.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Est. 1970

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Suite B
Matawan, NJ 07747

Report Summary

Monday May 11, 2015

Report Number: L761248

Samples Received: 04/24/15

Client Project:

Description: NC Bench Testing

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Leslie Newton , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:16

ESC Sample # : L761248-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	68.2		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	200	33.	mg/kg	MADEPV	05/07/15	225
C5-C8 Aliphatics	100	33.	mg/kg	MADEPV	05/07/15	225
C9-C12 Aliphatics	230	33.	mg/kg	MADEPV	05/07/15	225
C9-C10 Aromatics	130	33.	mg/kg	MADEPV	05/07/15	225
Surrogate Recovery						
2,5-Dibromotoluene(FID)	104.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	98.2		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	660	mg/kg	8260B	05/05/15	9000
Acrylonitrile	BDL	130	mg/kg	8260B	05/05/15	9000
Benzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Bromobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Bromodichloromethane	BDL	13.	mg/kg	8260B	05/05/15	9000
Bromoform	BDL	13.	mg/kg	8260B	05/05/15	9000
Bromomethane	BDL	66.	mg/kg	8260B	05/05/15	9000
n-Butylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
sec-Butylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
tert-Butylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Carbon tetrachloride	BDL	13.	mg/kg	8260B	05/05/15	9000
Chlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Chlorodibromomethane	BDL	13.	mg/kg	8260B	05/05/15	9000
Chloroethane	BDL	66.	mg/kg	8260B	05/05/15	9000
2-Chloroethyl vinyl ether	BDL	660	mg/kg	8260B	05/05/15	9000
Chloroform	BDL	66.	mg/kg	8260B	05/05/15	9000
Chloromethane	BDL	33.	mg/kg	8260B	05/05/15	9000
2-Chlorotoluene	BDL	13.	mg/kg	8260B	05/05/15	9000
4-Chlorotoluene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,2-Dibromo-3-Chloropropane	BDL	66.	mg/kg	8260B	05/05/15	9000
1,2-Dibromoethane	BDL	13.	mg/kg	8260B	05/05/15	9000
Dibromomethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,2-Dichlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,3-Dichlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,4-Dichlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Dichlorodifluoromethane	BDL	66.	mg/kg	8260B	05/05/15	9000
1,1-Dichloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,2-Dichloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1-Dichloroethene	BDL	13.	mg/kg	8260B	05/05/15	9000
cis-1,2-Dichloroethene	BDL	13.	mg/kg	8260B	05/05/15	9000
trans-1,2-Dichloroethene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,2-Dichloropropane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1-Dichloropropene	BDL	13.	mg/kg	8260B	05/05/15	9000

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:16

ESC Sample # : L761248-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	13.	mg/kg	8260B	05/05/15	9000
cis-1,3-Dichloropropene	BDL	13.	mg/kg	8260B	05/05/15	9000
trans-1,3-Dichloropropene	BDL	13.	mg/kg	8260B	05/05/15	9000
2,2-Dichloropropane	BDL	13.	mg/kg	8260B	05/05/15	9000
Di-isopropyl ether	BDL	13.	mg/kg	8260B	05/05/15	9000
Ethylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Hexachloro-1,3-butadiene	BDL	13.	mg/kg	8260B	05/05/15	9000
Isopropylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
p-Isopropyltoluene	BDL	13.	mg/kg	8260B	05/05/15	9000
2-Butanone (MEK)	BDL	130	mg/kg	8260B	05/05/15	9000
Methylene Chloride	BDL	66.	mg/kg	8260B	05/05/15	9000
4-Methyl-2-pentanone (MIBK)	BDL	130	mg/kg	8260B	05/05/15	9000
Methyl tert-butyl ether	BDL	13.	mg/kg	8260B	05/05/15	9000
Naphthalene	BDL	66.	mg/kg	8260B	05/05/15	9000
n-Propylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Styrene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1,1,2-Tetrachloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1,2,2-Tetrachloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1,2-Trichlorotrifluoroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
Tetrachloroethene	BDL	13.	mg/kg	8260B	05/05/15	9000
Toluene	BDL	66.	mg/kg	8260B	05/05/15	9000
1,2,3-Trichlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,2,4-Trichlorobenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1,1-Trichloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
1,1,2-Trichloroethane	BDL	13.	mg/kg	8260B	05/05/15	9000
Trichloroethene	530	13.	mg/kg	8260B	05/05/15	9000
Trichlorofluoromethane	BDL	66.	mg/kg	8260B	05/05/15	9000
1,2,3-Trichloropropane	BDL	33.	mg/kg	8260B	05/05/15	9000
1,2,4-Trimethylbenzene	15.	13.	mg/kg	8260B	05/05/15	9000
1,2,3-Trimethylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Vinyl chloride	BDL	13.	mg/kg	8260B	05/05/15	9000
1,3,5-Trimethylbenzene	BDL	13.	mg/kg	8260B	05/05/15	9000
Xylenes, Total	BDL	40.	mg/kg	8260B	05/05/15	9000
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	05/05/15	1
Dibromofluoromethane	98.1		% Rec.	8260B	05/05/15	1
4-Bromofluorobenzene	104.		% Rec.	8260B	05/05/15	1
Extractable Petroleum Hydrocarb	690	9.5	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	400	9.5	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	100	9.5	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	190	9.5	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	64.8		% Rec.	MADEPE	04/30/15	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:16

ESC Sample # : L761248-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	56.3		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	71.5		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	95.1		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.89	0.24	mg/kg	8270D	04/25/15	5
Acenaphthylene	0.29	0.24	mg/kg	8270D	04/25/15	5
Anthracene	BDL	0.24	mg/kg	8270D	04/25/15	5
Benzidine	BDL	2.4	mg/kg	8270D	04/25/15	5
Benzo(a)anthracene	BDL	0.24	mg/kg	8270D	04/25/15	5
Benzo(b)fluoranthene	BDL	0.24	mg/kg	8270D	04/25/15	5
Benzo(k)fluoranthene	BDL	0.24	mg/kg	8270D	04/25/15	5
Benzo(g,h,i)perylene	BDL	0.24	mg/kg	8270D	04/25/15	5
Benzo(a)pyrene	BDL	0.24	mg/kg	8270D	04/25/15	5
Bis(2-chlorethoxy)methane	BDL	2.4	mg/kg	8270D	04/25/15	5
Bis(2-chloroethyl)ether	BDL	2.4	mg/kg	8270D	04/25/15	5
Bis(2-chloroisopropyl)ether	BDL	2.4	mg/kg	8270D	04/25/15	5
4-Bromophenyl-phenylether	BDL	2.4	mg/kg	8270D	04/25/15	5
2-Chloronaphthalene	BDL	0.24	mg/kg	8270D	04/25/15	5
4-Chlorophenyl-phenylether	BDL	2.4	mg/kg	8270D	04/25/15	5
Chrysene	BDL	0.24	mg/kg	8270D	04/25/15	5
Dibenz(a,h)anthracene	BDL	0.24	mg/kg	8270D	04/25/15	5
1,2-Dichlorobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
1,3-Dichlorobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
1,4-Dichlorobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
3,3-Dichlorobenzidine	BDL	2.4	mg/kg	8270D	04/25/15	5
2,4-Dinitrotoluene	BDL	2.4	mg/kg	8270D	04/25/15	5
2,6-Dinitrotoluene	BDL	2.4	mg/kg	8270D	04/25/15	5
Fluoranthene	BDL	0.24	mg/kg	8270D	04/25/15	5
Fluorene	0.76	0.24	mg/kg	8270D	04/25/15	5
Hexachlorobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
Hexachloro-1,3-butadiene	BDL	2.4	mg/kg	8270D	04/25/15	5
Hexachlorocyclopentadiene	BDL	2.4	mg/kg	8270D	04/25/15	5
Hexachloroethane	BDL	2.4	mg/kg	8270D	04/25/15	5
Indeno(1,2,3-cd)pyrene	BDL	0.24	mg/kg	8270D	04/25/15	5
Isophorone	BDL	2.4	mg/kg	8270D	04/25/15	5
Naphthalene	2.2	0.24	mg/kg	8270D	04/25/15	5
Nitrobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
n-Nitrosodimethylamine	BDL	2.4	mg/kg	8270D	04/25/15	5
n-Nitrosodiphenylamine	BDL	2.4	mg/kg	8270D	04/25/15	5
n-Nitrosodi-n-propylamine	BDL	2.4	mg/kg	8270D	04/25/15	5
Phenanthrene	2.9	0.24	mg/kg	8270D	04/25/15	5
Benzylbutyl phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5
Bis(2-ethylhexyl)phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:16

ESC Sample # : L761248-01

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5
Diethyl phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5
Dimethyl phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5
Di-n-octyl phthalate	BDL	2.4	mg/kg	8270D	04/25/15	5
Pyrene	BDL	0.24	mg/kg	8270D	04/25/15	5
1,2,4-Trichlorobenzene	BDL	2.4	mg/kg	8270D	04/25/15	5
2-Methylnaphthalene	16.	0.48	mg/kg	8270D	04/27/15	10
Surrogate Recovery						
Nitrobenzene-d5	122.		% Rec.	8270D	04/25/15	5
2-Fluorobiphenyl	55.4		% Rec.	8270D	04/25/15	5
p-Terphenyl-d14	53.2		% Rec.	8270D	04/25/15	5

Results listed are dry weight basis.

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Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:48

ESC Sample # : L761248-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	59.4		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	76.	6.6	mg/kg	MADEPV	05/07/15	39
C5-C8 Aliphatics	9.9	6.6	mg/kg	MADEPV	05/07/15	39
C9-C12 Aliphatics	110	6.6	mg/kg	MADEPV	05/07/15	39
C9-C10 Aromatics	40.	6.6	mg/kg	MADEPV	05/07/15	39
Surrogate Recovery						
2,5-Dibromotoluene(FID)	105.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	94.6		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	3.3	mg/kg	8260B	05/03/15	39
Acrylonitrile	BDL	0.66	mg/kg	8260B	05/03/15	39
Benzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Bromobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Bromodichloromethane	BDL	0.066	mg/kg	8260B	05/03/15	39
Bromoform	BDL	0.066	mg/kg	8260B	05/03/15	39
Bromomethane	BDL	0.33	mg/kg	8260B	05/03/15	39
n-Butylbenzene	0.50	0.066	mg/kg	8260B	05/03/15	39
sec-Butylbenzene	0.30	0.066	mg/kg	8260B	05/03/15	39
tert-Butylbenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Carbon tetrachloride	BDL	0.066	mg/kg	8260B	05/03/15	39
Chlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Chlorodibromomethane	BDL	0.066	mg/kg	8260B	05/03/15	39
Chloroethane	BDL	0.33	mg/kg	8260B	05/03/15	39
2-Chloroethyl vinyl ether	BDL	3.3	mg/kg	8260B	05/03/15	39
Chloroform	BDL	0.33	mg/kg	8260B	05/03/15	39
Chloromethane	BDL	0.16	mg/kg	8260B	05/03/15	39
2-Chlorotoluene	BDL	0.066	mg/kg	8260B	05/03/15	39
4-Chlorotoluene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,2-Dibromo-3-Chloropropane	BDL	0.33	mg/kg	8260B	05/03/15	39
1,2-Dibromoethane	BDL	0.066	mg/kg	8260B	05/03/15	39
Dibromomethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,2-Dichlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,3-Dichlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,4-Dichlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Dichlorodifluoromethane	BDL	0.33	mg/kg	8260B	05/03/15	39
1,1-Dichloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,2-Dichloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1-Dichloroethene	BDL	0.066	mg/kg	8260B	05/03/15	39
cis-1,2-Dichloroethene	BDL	0.066	mg/kg	8260B	05/03/15	39
trans-1,2-Dichloroethene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,2-Dichloropropane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1-Dichloropropene	BDL	0.066	mg/kg	8260B	05/03/15	39

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:48

ESC Sample # : L761248-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.066	mg/kg	8260B	05/03/15	39
cis-1,3-Dichloropropene	BDL	0.066	mg/kg	8260B	05/03/15	39
trans-1,3-Dichloropropene	BDL	0.066	mg/kg	8260B	05/03/15	39
2,2-Dichloropropane	BDL	0.066	mg/kg	8260B	05/03/15	39
Di-isopropyl ether	BDL	0.066	mg/kg	8260B	05/03/15	39
Ethylbenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
Hexachloro-1,3-butadiene	BDL	0.066	mg/kg	8260B	05/03/15	39
Isopropylbenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
p-Isopropyltoluene	0.24	0.066	mg/kg	8260B	05/03/15	39
2-Butanone (MEK)	BDL	0.66	mg/kg	8260B	05/03/15	39
Methylene Chloride	BDL	0.33	mg/kg	8260B	05/03/15	39
4-Methyl-2-pentanone (MIBK)	BDL	0.66	mg/kg	8260B	05/03/15	39
Methyl tert-butyl ether	BDL	0.066	mg/kg	8260B	05/03/15	39
Naphthalene	0.81	0.33	mg/kg	8260B	05/03/15	39
n-Propylbenzene	0.086	0.066	mg/kg	8260B	05/03/15	39
Styrene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1,1,2-Tetrachloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1,2,2-Tetrachloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1,2-Trichlorotrifluoroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
Tetrachloroethene	BDL	0.066	mg/kg	8260B	05/03/15	39
Toluene	BDL	0.33	mg/kg	8260B	05/03/15	39
1,2,3-Trichlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,2,4-Trichlorobenzene	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1,1-Trichloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
1,1,2-Trichloroethane	BDL	0.066	mg/kg	8260B	05/03/15	39
Trichloroethene	0.30	0.066	mg/kg	8260B	05/05/15	39
Trichlorofluoromethane	BDL	0.33	mg/kg	8260B	05/03/15	39
1,2,3-Trichloropropane	BDL	0.16	mg/kg	8260B	05/03/15	39
1,2,4-Trimethylbenzene	0.29	0.066	mg/kg	8260B	05/03/15	39
1,2,3-Trimethylbenzene	0.16	0.066	mg/kg	8260B	05/03/15	39
Vinyl chloride	BDL	0.066	mg/kg	8260B	05/03/15	39
1,3,5-Trimethylbenzene	0.18	0.066	mg/kg	8260B	05/03/15	39
Xylenes, Total	BDL	0.20	mg/kg	8260B	05/03/15	39
Surrogate Recovery						
Toluene-d8	99.8		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	98.8		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	132.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	620	11.	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	390	11.	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	110	11.	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	120	11.	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	72.2		% Rec.	MADEPE	04/30/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:48

ESC Sample # : L761248-02

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	68.0		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	78.1		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	91.4		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.18	0.056	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.056	mg/kg	8270D	04/25/15	1
Anthracene	BDL	0.056	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.56	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.056	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.056	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.056	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.056	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.056	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.56	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.56	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.56	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.56	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.056	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.56	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.056	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.056	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.56	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.56	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.56	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.056	mg/kg	8270D	04/25/15	1
Fluorene	0.18	0.056	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.56	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.56	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.56	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.056	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.56	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.056	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.56	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.56	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.56	mg/kg	8270D	04/25/15	1
Phenanthrene	0.57	0.056	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1

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Fax (615) 758-5859

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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-02

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-41 TEST 1 SOIL

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 10:48

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.56	mg/kg	8270D	04/25/15	1
Pyrene	0.081	0.056	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.56	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	0.54	0.056	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	82.0		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	39.1		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	35.8		% Rec.	8270D	04/25/15	1

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:13

ESC Sample # : L761248-03

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	64.5		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	68.	6.7	mg/kg	MADEPV	05/07/15	43.5
C5-C8 Aliphatics	BDL	6.7	mg/kg	MADEPV	05/07/15	43.5
C9-C12 Aliphatics	94.	6.7	mg/kg	MADEPV	05/07/15	43.5
C9-C10 Aromatics	34.	6.7	mg/kg	MADEPV	05/07/15	43.5
Surrogate Recovery						
2,5-Dibromotoluene(FID)	107.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	92.7		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	1.7	mg/kg	8260B	05/03/15	21.75
Acrylonitrile	BDL	0.34	mg/kg	8260B	05/03/15	21.75
Benzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Bromobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Bromodichloromethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Bromoform	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Bromomethane	BDL	0.17	mg/kg	8260B	05/03/15	21.75
n-Butylbenzene	0.13	0.034	mg/kg	8260B	05/03/15	21.75
sec-Butylbenzene	0.062	0.034	mg/kg	8260B	05/03/15	21.75
tert-Butylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Carbon tetrachloride	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Chlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Chlorodibromomethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Chloroethane	BDL	0.17	mg/kg	8260B	05/03/15	21.75
2-Chloroethyl vinyl ether	BDL	1.7	mg/kg	8260B	05/03/15	21.75
Chloroform	BDL	0.17	mg/kg	8260B	05/03/15	21.75
Chloromethane	BDL	0.084	mg/kg	8260B	05/03/15	21.75
2-Chlorotoluene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
4-Chlorotoluene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,2-Dibromo-3-Chloropropane	BDL	0.17	mg/kg	8260B	05/03/15	21.75
1,2-Dibromoethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Dibromomethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,2-Dichlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,3-Dichlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,4-Dichlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Dichlorodifluoromethane	BDL	0.17	mg/kg	8260B	05/03/15	21.75
1,1-Dichloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,2-Dichloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1-Dichloroethene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
cis-1,2-Dichloroethene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
trans-1,2-Dichloroethene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,2-Dichloropropane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1-Dichloropropene	BDL	0.034	mg/kg	8260B	05/03/15	21.75

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:13

ESC Sample # : L761248-03

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
cis-1,3-Dichloropropene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
trans-1,3-Dichloropropene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
2,2-Dichloropropane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Di-isopropyl ether	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Ethylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Hexachloro-1,3-butadiene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Isopropylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
p-Isopropyltoluene	0.050	0.034	mg/kg	8260B	05/03/15	21.75
2-Butanone (MEK)	BDL	0.34	mg/kg	8260B	05/03/15	21.75
Methylene Chloride	BDL	0.17	mg/kg	8260B	05/03/15	21.75
4-Methyl-2-pentanone (MIBK)	BDL	0.34	mg/kg	8260B	05/03/15	21.75
Methyl tert-butyl ether	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Naphthalene	BDL	0.17	mg/kg	8260B	05/03/15	21.75
n-Propylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Styrene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1,1,2-Tetrachloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1,2,2-Tetrachloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1,2-Trichlorotrifluoroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Tetrachloroethene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Toluene	BDL	0.17	mg/kg	8260B	05/03/15	21.75
1,2,3-Trichlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,2,4-Trichlorobenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1,1-Trichloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,1,2-Trichloroethane	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Trichloroethene	0.22	0.034	mg/kg	8260B	05/05/15	21.75
Trichlorofluoromethane	BDL	0.17	mg/kg	8260B	05/03/15	21.75
1,2,3-Trichloropropane	BDL	0.084	mg/kg	8260B	05/03/15	21.75
1,2,4-Trimethylbenzene	0.039	0.034	mg/kg	8260B	05/03/15	21.75
1,2,3-Trimethylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Vinyl chloride	BDL	0.034	mg/kg	8260B	05/03/15	21.75
1,3,5-Trimethylbenzene	BDL	0.034	mg/kg	8260B	05/03/15	21.75
Xylenes, Total	BDL	0.10	mg/kg	8260B	05/03/15	21.75
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	95.5		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	131.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	400	10.	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	250	10.	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	68.	10.	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	84.	10.	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	73.8		% Rec.	MADEPE	04/30/15	1

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
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Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:13

ESC Sample # : L761248-03

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	57.4		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	75.5		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	87.4		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.082	0.051	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.051	mg/kg	8270D	04/25/15	1
Anthracene	BDL	0.051	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.52	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.051	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.051	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.051	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.051	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.051	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.52	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.52	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.52	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.52	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.051	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.52	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.051	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.051	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.52	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.52	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.52	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.051	mg/kg	8270D	04/25/15	1
Fluorene	0.093	0.051	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.52	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.52	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.52	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.051	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.52	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.051	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.52	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.52	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.52	mg/kg	8270D	04/25/15	1
Phenanthrene	0.20	0.051	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-03

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-41 TEST 2 SOIL

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 11:13

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.52	mg/kg	8270D	04/25/15	1
Pyrene	BDL	0.051	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.52	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	BDL	0.051	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	87.9		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	37.2		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	38.0		% Rec.	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:39

ESC Sample # : L761248-04

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	69.5		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	34.	5.7	mg/kg	MADEPV	05/07/15	39.5
C5-C8 Aliphatics	BDL	5.7	mg/kg	MADEPV	05/07/15	39.5
C9-C12 Aliphatics	52.	5.7	mg/kg	MADEPV	05/07/15	39.5
C9-C10 Aromatics	20.	5.7	mg/kg	MADEPV	05/07/15	39.5
Surrogate Recovery						
2,5-Dibromotoluene(FID)	107.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	92.8		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	2.8	mg/kg	8260B	05/03/15	39.5
Acrylonitrile	BDL	0.57	mg/kg	8260B	05/03/15	39.5
Benzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Bromobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Bromodichloromethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Bromoform	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Bromomethane	BDL	0.28	mg/kg	8260B	05/03/15	39.5
n-Butylbenzene	0.069	0.057	mg/kg	8260B	05/03/15	39.5
sec-Butylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
tert-Butylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Carbon tetrachloride	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Chlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Chlorodibromomethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Chloroethane	BDL	0.28	mg/kg	8260B	05/03/15	39.5
2-Chloroethyl vinyl ether	BDL	2.8	mg/kg	8260B	05/03/15	39.5
Chloroform	BDL	0.28	mg/kg	8260B	05/03/15	39.5
Chloromethane	BDL	0.14	mg/kg	8260B	05/03/15	39.5
2-Chlorotoluene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
4-Chlorotoluene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2-Dibromo-3-Chloropropane	BDL	0.28	mg/kg	8260B	05/03/15	39.5
1,2-Dibromoethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Dibromomethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2-Dichlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,3-Dichlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,4-Dichlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Dichlorodifluoromethane	BDL	0.28	mg/kg	8260B	05/03/15	39.5
1,1-Dichloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2-Dichloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1-Dichloroethene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
cis-1,2-Dichloroethene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
trans-1,2-Dichloroethene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2-Dichloropropane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1-Dichloropropene	BDL	0.057	mg/kg	8260B	05/03/15	39.5

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:39

ESC Sample # : L761248-04

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
cis-1,3-Dichloropropene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
trans-1,3-Dichloropropene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
2,2-Dichloropropane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Di-isopropyl ether	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Ethylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Hexachloro-1,3-butadiene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Isopropylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
p-Isopropyltoluene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
2-Butanone (MEK)	BDL	0.57	mg/kg	8260B	05/03/15	39.5
Methylene Chloride	BDL	0.28	mg/kg	8260B	05/03/15	39.5
4-Methyl-2-pentanone (MIBK)	BDL	0.57	mg/kg	8260B	05/03/15	39.5
Methyl tert-butyl ether	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Naphthalene	BDL	0.28	mg/kg	8260B	05/03/15	39.5
n-Propylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Styrene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1,1,2-Tetrachloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1,2,2-Tetrachloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1,2-Trichlorotrifluoroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Tetrachloroethene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Toluene	BDL	0.28	mg/kg	8260B	05/03/15	39.5
1,2,3-Trichlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2,4-Trichlorobenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1,1-Trichloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,1,2-Trichloroethane	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Trichloroethene	BDL	0.057	mg/kg	8260B	05/05/15	39.5
Trichlorofluoromethane	BDL	0.28	mg/kg	8260B	05/03/15	39.5
1,2,3-Trichloropropane	BDL	0.14	mg/kg	8260B	05/03/15	39.5
1,2,4-Trimethylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,2,3-Trimethylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Vinyl chloride	BDL	0.057	mg/kg	8260B	05/03/15	39.5
1,3,5-Trimethylbenzene	BDL	0.057	mg/kg	8260B	05/03/15	39.5
Xylenes, Total	BDL	0.17	mg/kg	8260B	05/03/15	39.5
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	95.8		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	115.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	270	9.4	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	170	9.4	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	50.	9.4	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	49.	9.4	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	67.8		% Rec.	MADEPE	04/30/15	1

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:39

ESC Sample # : L761248-04

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	61.3		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	74.1		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	79.5		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.079	0.047	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.047	mg/kg	8270D	04/25/15	1
Anthracene	BDL	0.047	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.48	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.047	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.047	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.047	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.047	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.047	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.48	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.48	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.047	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.48	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.047	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.047	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.48	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.48	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.48	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.047	mg/kg	8270D	04/25/15	1
Fluorene	0.076	0.047	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.48	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.047	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.48	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.047	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
Phenanthrene	0.12	0.047	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-04

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-41 TEST 3 SOIL

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 11:39

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Pyrene	BDL	0.047	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	BDL	0.047	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	100.		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	50.0		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	56.1		% Rec.	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:12

ESC Sample # : L761248-05

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	66.5		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	93.	12.	mg/kg	MADEPV	05/07/15	82
C5-C8 Aliphatics	18.	12.	mg/kg	MADEPV	05/07/15	82
C9-C12 Aliphatics	160	12.	mg/kg	MADEPV	05/07/15	82
C9-C10 Aromatics	90.	12.	mg/kg	MADEPV	05/07/15	82
Surrogate Recovery						
2,5-Dibromotoluene(FID)	92.0		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	86.0		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	2.1	mg/kg	8260B	05/03/15	28
Acrylonitrile	BDL	0.42	mg/kg	8260B	05/03/15	28
Benzene	BDL	0.042	mg/kg	8260B	05/03/15	28
Bromobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
Bromodichloromethane	BDL	0.042	mg/kg	8260B	05/03/15	28
Bromoform	BDL	0.042	mg/kg	8260B	05/03/15	28
Bromomethane	BDL	0.21	mg/kg	8260B	05/03/15	28
n-Butylbenzene	0.77	0.042	mg/kg	8260B	05/03/15	28
sec-Butylbenzene	0.84	0.042	mg/kg	8260B	05/03/15	28
tert-Butylbenzene	0.060	0.042	mg/kg	8260B	05/03/15	28
Carbon tetrachloride	BDL	0.042	mg/kg	8260B	05/03/15	28
Chlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
Chlorodibromomethane	BDL	0.042	mg/kg	8260B	05/03/15	28
Chloroethane	BDL	0.21	mg/kg	8260B	05/03/15	28
2-Chloroethyl vinyl ether	BDL	2.1	mg/kg	8260B	05/03/15	28
Chloroform	BDL	0.21	mg/kg	8260B	05/03/15	28
Chloromethane	BDL	0.10	mg/kg	8260B	05/03/15	28
2-Chlorotoluene	BDL	0.042	mg/kg	8260B	05/03/15	28
4-Chlorotoluene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,2-Dibromo-3-Chloropropane	BDL	0.21	mg/kg	8260B	05/03/15	28
1,2-Dibromoethane	BDL	0.042	mg/kg	8260B	05/03/15	28
Dibromomethane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,2-Dichlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,3-Dichlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,4-Dichlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
Dichlorodifluoromethane	BDL	0.21	mg/kg	8260B	05/03/15	28
1,1-Dichloroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,2-Dichloroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1-Dichloroethene	BDL	0.042	mg/kg	8260B	05/03/15	28
cis-1,2-Dichloroethene	BDL	0.042	mg/kg	8260B	05/03/15	28
trans-1,2-Dichloroethene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,2-Dichloropropane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1-Dichloropropene	BDL	0.042	mg/kg	8260B	05/03/15	28

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:12

ESC Sample # : L761248-05

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.042	mg/kg	8260B	05/03/15	28
cis-1,3-Dichloropropene	BDL	0.042	mg/kg	8260B	05/03/15	28
trans-1,3-Dichloropropene	BDL	0.042	mg/kg	8260B	05/03/15	28
2,2-Dichloropropane	BDL	0.042	mg/kg	8260B	05/03/15	28
Di-isopropyl ether	BDL	0.042	mg/kg	8260B	05/03/15	28
Ethylbenzene	0.18	0.042	mg/kg	8260B	05/03/15	28
Hexachloro-1,3-butadiene	BDL	0.042	mg/kg	8260B	05/03/15	28
Isopropylbenzene	0.60	0.042	mg/kg	8260B	05/03/15	28
p-Isopropyltoluene	0.53	0.042	mg/kg	8260B	05/03/15	28
2-Butanone (MEK)	BDL	0.42	mg/kg	8260B	05/03/15	28
Methylene Chloride	BDL	0.21	mg/kg	8260B	05/03/15	28
4-Methyl-2-pentanone (MIBK)	BDL	0.42	mg/kg	8260B	05/03/15	28
Methyl tert-butyl ether	BDL	0.042	mg/kg	8260B	05/03/15	28
Naphthalene	4.4	0.21	mg/kg	8260B	05/03/15	28
n-Propylbenzene	0.98	0.042	mg/kg	8260B	05/03/15	28
Styrene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1,1,2-Tetrachloroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1,2,2-Tetrachloroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1,2-Trichlorotrifluoroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
Tetrachloroethene	BDL	0.042	mg/kg	8260B	05/03/15	28
Toluene	BDL	0.21	mg/kg	8260B	05/03/15	28
1,2,3-Trichlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,2,4-Trichlorobenzene	BDL	0.042	mg/kg	8260B	05/03/15	28
1,1,1-Trichloroethane	0.33	0.042	mg/kg	8260B	05/03/15	28
1,1,2-Trichloroethane	BDL	0.042	mg/kg	8260B	05/03/15	28
Trichloroethene	57.	1.2	mg/kg	8260B	05/05/15	820
Trichlorofluoromethane	BDL	0.21	mg/kg	8260B	05/03/15	28
1,2,3-Trichloropropane	BDL	0.10	mg/kg	8260B	05/03/15	28
1,2,4-Trimethylbenzene	6.0	0.042	mg/kg	8260B	05/03/15	28
1,2,3-Trimethylbenzene	2.2	0.042	mg/kg	8260B	05/03/15	28
Vinyl chloride	BDL	0.042	mg/kg	8260B	05/03/15	28
1,3,5-Trimethylbenzene	1.1	0.042	mg/kg	8260B	05/03/15	28
Xylenes, Total	2.6	0.13	mg/kg	8260B	05/03/15	28
Surrogate Recovery						
Toluene-d8	83.4		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	99.3		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	127.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	390	9.8	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	210	9.8	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	53.	9.8	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	120	9.8	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	71.4		% Rec.	MADEPE	04/30/15	1

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:12

ESC Sample # : L761248-05

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	68.9		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	75.7		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	91.7		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.66	0.050	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.050	mg/kg	8270D	04/25/15	1
Anthracene	0.072	0.050	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.50	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.050	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.050	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.050	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.050	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.050	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.50	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.50	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.50	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.50	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.050	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.50	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.050	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.050	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.50	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.50	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.50	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.050	mg/kg	8270D	04/25/15	1
Fluorene	0.71	0.050	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.50	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.50	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.50	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.050	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.50	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.50	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.50	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.50	mg/kg	8270D	04/25/15	1
Phenanthrene	1.4	0.050	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1
Di-n-butyl phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1

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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:12

ESC Sample # : L761248-05

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.50	mg/kg	8270D	04/25/15	1
Pyrene	0.13	0.050	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.50	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	10.	0.99	mg/kg	8270D	04/27/15	20
Surrogate Recovery						
Nitrobenzene-d5	82.5		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	50.1		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	46.6		% Rec.	8270D	04/25/15	1

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:34

ESC Sample # : L761248-06

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	62.6		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	45.	5.8	mg/kg	MADEPV	05/07/15	36
C5-C8 Aliphatics	BDL	5.8	mg/kg	MADEPV	05/07/15	36
C9-C12 Aliphatics	62.	5.8	mg/kg	MADEPV	05/07/15	36
C9-C10 Aromatics	24.	5.8	mg/kg	MADEPV	05/07/15	36
Surrogate Recovery						
2,5-Dibromotoluene(FID)	102.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	92.5		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	2.9	mg/kg	8260B	05/03/15	36
Acrylonitrile	BDL	0.58	mg/kg	8260B	05/03/15	36
Benzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Bromobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Bromodichloromethane	BDL	0.058	mg/kg	8260B	05/03/15	36
Bromoform	BDL	0.058	mg/kg	8260B	05/03/15	36
Bromomethane	BDL	0.29	mg/kg	8260B	05/03/15	36
n-Butylbenzene	0.18	0.058	mg/kg	8260B	05/03/15	36
sec-Butylbenzene	0.099	0.058	mg/kg	8260B	05/03/15	36
tert-Butylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Carbon tetrachloride	BDL	0.058	mg/kg	8260B	05/03/15	36
Chlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Chlorodibromomethane	BDL	0.058	mg/kg	8260B	05/03/15	36
Chloroethane	BDL	0.29	mg/kg	8260B	05/03/15	36
2-Chloroethyl vinyl ether	BDL	2.9	mg/kg	8260B	05/03/15	36
Chloroform	BDL	0.29	mg/kg	8260B	05/03/15	36
Chloromethane	BDL	0.14	mg/kg	8260B	05/03/15	36
2-Chlorotoluene	BDL	0.058	mg/kg	8260B	05/03/15	36
4-Chlorotoluene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,2-Dibromo-3-Chloropropane	BDL	0.29	mg/kg	8260B	05/03/15	36
1,2-Dibromoethane	BDL	0.058	mg/kg	8260B	05/03/15	36
Dibromomethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,2-Dichlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,3-Dichlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,4-Dichlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Dichlorodifluoromethane	BDL	0.29	mg/kg	8260B	05/03/15	36
1,1-Dichloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,2-Dichloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1-Dichloroethene	BDL	0.058	mg/kg	8260B	05/03/15	36
cis-1,2-Dichloroethene	BDL	0.058	mg/kg	8260B	05/03/15	36
trans-1,2-Dichloroethene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,2-Dichloropropane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1-Dichloropropene	BDL	0.058	mg/kg	8260B	05/03/15	36

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:34

ESC Sample # : L761248-06

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.058	mg/kg	8260B	05/03/15	36
cis-1,3-Dichloropropene	BDL	0.058	mg/kg	8260B	05/03/15	36
trans-1,3-Dichloropropene	BDL	0.058	mg/kg	8260B	05/03/15	36
2,2-Dichloropropane	BDL	0.058	mg/kg	8260B	05/03/15	36
Di-isopropyl ether	BDL	0.058	mg/kg	8260B	05/03/15	36
Ethylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Hexachloro-1,3-butadiene	BDL	0.058	mg/kg	8260B	05/03/15	36
Isopropylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
p-Isopropyltoluene	0.077	0.058	mg/kg	8260B	05/03/15	36
2-Butanone (MEK)	BDL	0.58	mg/kg	8260B	05/03/15	36
Methylene Chloride	BDL	0.29	mg/kg	8260B	05/03/15	36
4-Methyl-2-pentanone (MIBK)	BDL	0.58	mg/kg	8260B	05/03/15	36
Methyl tert-butyl ether	BDL	0.058	mg/kg	8260B	05/03/15	36
Naphthalene	0.62	0.29	mg/kg	8260B	05/03/15	36
n-Propylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Styrene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1,1,2-Tetrachloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1,2,2-Tetrachloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1,2-Trichlorotrifluoroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
Tetrachloroethene	BDL	0.058	mg/kg	8260B	05/03/15	36
Toluene	BDL	0.29	mg/kg	8260B	05/03/15	36
1,2,3-Trichlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,2,4-Trichlorobenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1,1-Trichloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
1,1,2-Trichloroethane	BDL	0.058	mg/kg	8260B	05/03/15	36
Trichloroethene	BDL	0.058	mg/kg	8260B	05/05/15	36
Trichlorofluoromethane	BDL	0.29	mg/kg	8260B	05/03/15	36
1,2,3-Trichloropropane	BDL	0.14	mg/kg	8260B	05/03/15	36
1,2,4-Trimethylbenzene	0.12	0.058	mg/kg	8260B	05/03/15	36
1,2,3-Trimethylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Vinyl chloride	BDL	0.058	mg/kg	8260B	05/03/15	36
1,3,5-Trimethylbenzene	BDL	0.058	mg/kg	8260B	05/03/15	36
Xylenes, Total	BDL	0.17	mg/kg	8260B	05/03/15	36
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	94.5		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	141.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	370	10.	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	220	10.	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	56.	10.	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	89.	10.	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	69.5		% Rec.	MADEPE	04/30/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:34

ESC Sample # : L761248-06

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	66.2		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	74.2		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	85.2		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.12	0.053	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.053	mg/kg	8270D	04/25/15	1
Anthracene	BDL	0.053	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.53	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.053	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.053	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.053	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.053	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.053	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.53	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.53	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.53	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.53	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.053	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.53	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.053	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.053	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.53	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.53	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.53	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.053	mg/kg	8270D	04/25/15	1
Fluorene	0.19	0.053	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.53	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.53	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.53	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.053	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.53	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.053	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.53	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.53	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.53	mg/kg	8270D	04/25/15	1
Phenanthrene	0.43	0.053	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:34

ESC Sample # : L761248-06

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.53	mg/kg	8270D	04/25/15	1
Pyrene	0.099	0.053	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.53	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	0.16	0.053	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	94.2		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	45.8		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	50.7		% Rec.	8270D	04/25/15	1

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:01

ESC Sample # : L761248-07

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	72.7		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	34.	5.1	mg/kg	MADEPV	05/07/15	37
C5-C8 Aliphatics	BDL	5.1	mg/kg	MADEPV	05/07/15	37
C9-C12 Aliphatics	50.	5.1	mg/kg	MADEPV	05/07/15	37
C9-C10 Aromatics	18.	5.1	mg/kg	MADEPV	05/07/15	37
Surrogate Recovery						
2,5-Dibromotoluene(FID)	101.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	89.2		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	0.099	0.069	mg/kg	8260B	05/08/15	1
Acrylonitrile	BDL	0.014	mg/kg	8260B	05/08/15	1
Benzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Bromobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Bromodichloromethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Bromoform	BDL	0.0014	mg/kg	8260B	05/08/15	1
Bromomethane	BDL	0.0069	mg/kg	8260B	05/08/15	1
n-Butylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
sec-Butylbenzene	0.0021	0.0014	mg/kg	8260B	05/08/15	1
tert-Butylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Carbon tetrachloride	BDL	0.0014	mg/kg	8260B	05/08/15	1
Chlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Chlorodibromomethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Chloroethane	BDL	0.0069	mg/kg	8260B	05/08/15	1
2-Chloroethyl vinyl ether	BDL	0.069	mg/kg	8260B	05/08/15	1
Chloroform	BDL	0.0069	mg/kg	8260B	05/08/15	1
Chloromethane	BDL	0.0034	mg/kg	8260B	05/08/15	1
2-Chlorotoluene	BDL	0.0014	mg/kg	8260B	05/08/15	1
4-Chlorotoluene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0069	mg/kg	8260B	05/08/15	1
1,2-Dibromoethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Dibromomethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,2-Dichlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,3-Dichlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,4-Dichlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Dichlorodifluoromethane	BDL	0.0069	mg/kg	8260B	05/08/15	1
1,1-Dichloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,2-Dichloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1-Dichloroethene	BDL	0.0014	mg/kg	8260B	05/08/15	1
cis-1,2-Dichloroethene	BDL	0.0014	mg/kg	8260B	05/08/15	1
trans-1,2-Dichloroethene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,2-Dichloropropane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1-Dichloropropene	BDL	0.0014	mg/kg	8260B	05/08/15	1

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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:01

ESC Sample # : L761248-07

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.0014	mg/kg	8260B	05/08/15	1
cis-1,3-Dichloropropene	BDL	0.0014	mg/kg	8260B	05/08/15	1
trans-1,3-Dichloropropene	BDL	0.0014	mg/kg	8260B	05/08/15	1
2,2-Dichloropropane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Di-isopropyl ether	BDL	0.0014	mg/kg	8260B	05/08/15	1
Ethylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Hexachloro-1,3-butadiene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Isopropylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
p-Isopropyltoluene	0.0025	0.0014	mg/kg	8260B	05/08/15	1
2-Butanone (MEK)	BDL	0.014	mg/kg	8260B	05/08/15	1
Methylene Chloride	BDL	0.0069	mg/kg	8260B	05/08/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.014	mg/kg	8260B	05/08/15	1
Methyl tert-butyl ether	BDL	0.0014	mg/kg	8260B	05/08/15	1
Naphthalene	BDL	0.0069	mg/kg	8260B	05/08/15	1
n-Propylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Styrene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Tetrachloroethene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Toluene	BDL	0.0069	mg/kg	8260B	05/08/15	1
1,2,3-Trichlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,2,4-Trichlorobenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1,1-Trichloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,1,2-Trichloroethane	BDL	0.0014	mg/kg	8260B	05/08/15	1
Trichloroethene	0.0033	0.0014	mg/kg	8260B	05/08/15	1
Trichlorofluoromethane	BDL	0.0069	mg/kg	8260B	05/08/15	1
1,2,3-Trichloropropane	BDL	0.0034	mg/kg	8260B	05/08/15	1
1,2,4-Trimethylbenzene	0.0022	0.0014	mg/kg	8260B	05/08/15	1
1,2,3-Trimethylbenzene	0.0019	0.0014	mg/kg	8260B	05/08/15	1
Vinyl chloride	BDL	0.0014	mg/kg	8260B	05/08/15	1
1,3,5-Trimethylbenzene	BDL	0.0014	mg/kg	8260B	05/08/15	1
Xylenes, Total	BDL	0.0041	mg/kg	8260B	05/08/15	1
Surrogate Recovery						
Toluene-d8	89.1		% Rec.	8260B	05/08/15	1
Dibromofluoromethane	107.		% Rec.	8260B	05/08/15	1
4-Bromofluorobenzene	129.		% Rec.	8260B	05/08/15	1
Extractable Petroleum Hydrocarb	260	8.9	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	160	8.9	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	41.	8.9	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	50.	8.9	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	65.4		% Rec.	MADEPE	04/30/15	1

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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:01

ESC Sample # : L761248-07

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	70.6		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	69.9		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	59.6		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.045	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.045	mg/kg	8270D	04/25/15	1
Anthracene	0.087	0.045	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.46	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.045	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.045	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.045	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.045	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.045	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.46	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.46	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.46	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.46	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.045	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.46	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.045	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.045	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.46	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.46	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.46	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.045	mg/kg	8270D	04/25/15	1
Fluorene	0.070	0.045	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.46	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.46	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.46	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.045	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.46	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.045	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.46	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.46	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.46	mg/kg	8270D	04/25/15	1
Phenanthrene	0.072	0.045	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:01

ESC Sample # : L761248-07

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.46	mg/kg	8270D	04/25/15	1
Pyrene	BDL	0.045	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.46	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	BDL	0.045	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	81.5		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	47.9		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	49.4		% Rec.	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:26

ESC Sample # : L761248-08

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	68.9		%	2540 G-2011	04/28/15	1
Volatile Petroleum Hydrocarbons	51.	5.4	mg/kg	MADEPV	05/07/15	37
C5-C8 Aliphatics	BDL	5.4	mg/kg	MADEPV	05/07/15	37
C9-C12 Aliphatics	70.	5.4	mg/kg	MADEPV	05/07/15	37
C9-C10 Aromatics	23.	5.4	mg/kg	MADEPV	05/07/15	37
Surrogate Recovery						
2,5-Dibromotoluene(FID)	104.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	91.2		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	2.7	mg/kg	8260B	05/03/15	37
Acrylonitrile	BDL	0.54	mg/kg	8260B	05/03/15	37
Benzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Bromobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Bromodichloromethane	BDL	0.054	mg/kg	8260B	05/03/15	37
Bromoform	BDL	0.054	mg/kg	8260B	05/03/15	37
Bromomethane	BDL	0.27	mg/kg	8260B	05/03/15	37
n-Butylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
sec-Butylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
tert-Butylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Carbon tetrachloride	BDL	0.054	mg/kg	8260B	05/03/15	37
Chlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Chlorodibromomethane	BDL	0.054	mg/kg	8260B	05/03/15	37
Chloroethane	BDL	0.27	mg/kg	8260B	05/03/15	37
2-Chloroethyl vinyl ether	BDL	2.7	mg/kg	8260B	05/03/15	37
Chloroform	BDL	0.27	mg/kg	8260B	05/03/15	37
Chloromethane	BDL	0.13	mg/kg	8260B	05/03/15	37
2-Chlorotoluene	BDL	0.054	mg/kg	8260B	05/03/15	37
4-Chlorotoluene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2-Dibromo-3-Chloropropane	BDL	0.27	mg/kg	8260B	05/03/15	37
1,2-Dibromoethane	BDL	0.054	mg/kg	8260B	05/03/15	37
Dibromomethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2-Dichlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,3-Dichlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,4-Dichlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Dichlorodifluoromethane	BDL	0.27	mg/kg	8260B	05/03/15	37
1,1-Dichloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2-Dichloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1-Dichloroethene	BDL	0.054	mg/kg	8260B	05/03/15	37
cis-1,2-Dichloroethene	BDL	0.054	mg/kg	8260B	05/03/15	37
trans-1,2-Dichloroethene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2-Dichloropropane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1-Dichloropropene	BDL	0.054	mg/kg	8260B	05/03/15	37

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L761248-08 (V8260) - Non-target compounds too high to run at a lower dilution.



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:26

ESC Sample # : L761248-08

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,3-Dichloropropane	BDL	0.054	mg/kg	8260B	05/03/15	37
cis-1,3-Dichloropropene	BDL	0.054	mg/kg	8260B	05/03/15	37
trans-1,3-Dichloropropene	BDL	0.054	mg/kg	8260B	05/03/15	37
2,2-Dichloropropane	BDL	0.054	mg/kg	8260B	05/03/15	37
Di-isopropyl ether	BDL	0.054	mg/kg	8260B	05/03/15	37
Ethylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Hexachloro-1,3-butadiene	BDL	0.054	mg/kg	8260B	05/03/15	37
Isopropylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
p-Isopropyltoluene	BDL	0.054	mg/kg	8260B	05/03/15	37
2-Butanone (MEK)	BDL	0.54	mg/kg	8260B	05/03/15	37
Methylene Chloride	BDL	0.27	mg/kg	8260B	05/03/15	37
4-Methyl-2-pentanone (MIBK)	BDL	0.54	mg/kg	8260B	05/03/15	37
Methyl tert-butyl ether	BDL	0.054	mg/kg	8260B	05/03/15	37
Naphthalene	BDL	0.27	mg/kg	8260B	05/03/15	37
n-Propylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Styrene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1,1,2-Tetrachloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1,2,2-Tetrachloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1,2-Trichlorotrifluoroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
Tetrachloroethene	BDL	0.054	mg/kg	8260B	05/03/15	37
Toluene	BDL	0.27	mg/kg	8260B	05/03/15	37
1,2,3-Trichlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2,4-Trichlorobenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1,1-Trichloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
1,1,2-Trichloroethane	BDL	0.054	mg/kg	8260B	05/03/15	37
Trichloroethene	BDL	0.054	mg/kg	8260B	05/05/15	37
Trichlorofluoromethane	BDL	0.27	mg/kg	8260B	05/03/15	37
1,2,3-Trichloropropane	BDL	0.13	mg/kg	8260B	05/03/15	37
1,2,4-Trimethylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
1,2,3-Trimethylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Vinyl chloride	BDL	0.054	mg/kg	8260B	05/03/15	37
1,3,5-Trimethylbenzene	BDL	0.054	mg/kg	8260B	05/03/15	37
Xylenes, Total	BDL	0.16	mg/kg	8260B	05/03/15	37
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	93.8		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	143.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	460	9.4	mg/kg	MADEPE	04/30/15	1
C9-C18 Aliphatics	290	9.4	mg/kg	MADEPE	04/30/15	1
C19-C36 Aliphatics	70.	9.4	mg/kg	MADEPE	04/30/15	1
C11-C22 Aromatics	100	9.4	mg/kg	MADEPE	04/30/15	1
Surrogate Recovery						
o-Terphenyl	65.7		% Rec.	MADEPE	04/30/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L761248-08 (V8260) - Non-target compounds too high to run at a lower dilution.



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Tag I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 SOIL
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:26

ESC Sample # : L761248-08

Site ID :

Project # :

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1-Chloro-octadecane	60.3		% Rec.	MADEPE	04/30/15	1
2-Fluorobiphenyl	77.7		% Rec.	MADEPE	04/30/15	1
2-Bromonaphthalene	89.2		% Rec.	MADEPE	04/30/15	1
Base/Neutral Extractables						
Acenaphthene	0.077	0.048	mg/kg	8270D	04/25/15	1
Acenaphthylene	BDL	0.048	mg/kg	8270D	04/25/15	1
Anthracene	0.17	0.048	mg/kg	8270D	04/25/15	1
Benzidine	BDL	0.48	mg/kg	8270D	04/25/15	1
Benzo(a)anthracene	BDL	0.048	mg/kg	8270D	04/25/15	1
Benzo(b)fluoranthene	BDL	0.048	mg/kg	8270D	04/25/15	1
Benzo(k)fluoranthene	BDL	0.048	mg/kg	8270D	04/25/15	1
Benzo(g,h,i)perylene	BDL	0.048	mg/kg	8270D	04/25/15	1
Benzo(a)pyrene	BDL	0.048	mg/kg	8270D	04/25/15	1
Bis(2-chlorethoxy)methane	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-chloroethyl)ether	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-chloroisopropyl)ether	BDL	0.48	mg/kg	8270D	04/25/15	1
4-Bromophenyl-phenylether	BDL	0.48	mg/kg	8270D	04/25/15	1
2-Chloronaphthalene	BDL	0.048	mg/kg	8270D	04/25/15	1
4-Chlorophenyl-phenylether	BDL	0.48	mg/kg	8270D	04/25/15	1
Chrysene	BDL	0.048	mg/kg	8270D	04/25/15	1
Dibenz(a,h)anthracene	BDL	0.048	mg/kg	8270D	04/25/15	1
1,2-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
1,3-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
1,4-Dichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
3,3-Dichlorobenzidine	BDL	0.48	mg/kg	8270D	04/25/15	1
2,4-Dinitrotoluene	BDL	0.48	mg/kg	8270D	04/25/15	1
2,6-Dinitrotoluene	BDL	0.48	mg/kg	8270D	04/25/15	1
Fluoranthene	BDL	0.048	mg/kg	8270D	04/25/15	1
Fluorene	0.12	0.048	mg/kg	8270D	04/25/15	1
Hexachlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachloro-1,3-butadiene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachlorocyclopentadiene	BDL	0.48	mg/kg	8270D	04/25/15	1
Hexachloroethane	BDL	0.48	mg/kg	8270D	04/25/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.048	mg/kg	8270D	04/25/15	1
Isophorone	BDL	0.48	mg/kg	8270D	04/25/15	1
Naphthalene	BDL	0.048	mg/kg	8270D	04/25/15	1
Nitrobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodimethylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodiphenylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
n-Nitrosodi-n-propylamine	BDL	0.48	mg/kg	8270D	04/25/15	1
Phenanthrene	0.13	0.048	mg/kg	8270D	04/25/15	1
Benzylbutyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Bis(2-ethylhexyl)phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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L761248-08 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-08

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-42 TEST 3 SOIL

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 14:26

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Di-n-butyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Diethyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Dimethyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Di-n-octyl phthalate	BDL	0.48	mg/kg	8270D	04/25/15	1
Pyrene	0.081	0.048	mg/kg	8270D	04/25/15	1
1,2,4-Trichlorobenzene	BDL	0.48	mg/kg	8270D	04/25/15	1
2-Methylnaphthalene	BDL	0.048	mg/kg	8270D	04/25/15	1
Surrogate Recovery						
Nitrobenzene-d5	105.		% Rec.	8270D	04/25/15	1
2-Fluorobiphenyl	54.5		% Rec.	8270D	04/25/15	1
p-Terphenyl-d14	62.9		% Rec.	8270D	04/25/15	1

Results listed are dry weight basis.

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00

L761248-08 (V8260) - Non-target compounds too high to run at a lower dilution.



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(615) 758-5858
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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:08

ESC Sample # : L761248-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	22000	1000	ug/l	MADEPV	05/05/15	10
C5-C8 Aliphatics	13000	1000	ug/l	MADEPV	05/05/15	10
C9-C12 Aliphatics	12000	1000	ug/l	MADEPV	05/05/15	10
C9-C10 Aromatics	4300	1000	ug/l	MADEPV	05/05/15	10
Surrogate Recovery						
2,5-Dibromotoluene(FID)	98.7		% Rec.	MADEPV	05/05/15	1
2,5-Dibromotoluene(PID)	94.0		% Rec.	MADEPV	05/05/15	1
Volatile Organics						
Acetone	BDL	5000	ug/l	8260B	05/03/15	100
Acrolein	BDL	5000	ug/l	8260B	05/03/15	100
Acrylonitrile	BDL	1000	ug/l	8260B	05/03/15	100
Benzene	BDL	100	ug/l	8260B	05/03/15	100
Bromobenzene	BDL	100	ug/l	8260B	05/03/15	100
Bromodichloromethane	BDL	100	ug/l	8260B	05/03/15	100
Bromoform	BDL	100	ug/l	8260B	05/03/15	100
Bromomethane	BDL	500	ug/l	8260B	05/03/15	100
n-Butylbenzene	150	100	ug/l	8260B	05/03/15	100
sec-Butylbenzene	140	100	ug/l	8260B	05/03/15	100
tert-Butylbenzene	BDL	100	ug/l	8260B	05/03/15	100
Carbon tetrachloride	BDL	100	ug/l	8260B	05/03/15	100
Chlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
Chlorodibromomethane	BDL	100	ug/l	8260B	05/03/15	100
Chloroethane	BDL	500	ug/l	8260B	05/03/15	100
2-Chloroethyl vinyl ether	BDL	5000	ug/l	8260B	05/03/15	100
Chloroform	BDL	500	ug/l	8260B	05/03/15	100
Chloromethane	BDL	250	ug/l	8260B	05/03/15	100
2-Chlorotoluene	BDL	100	ug/l	8260B	05/03/15	100
4-Chlorotoluene	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dibromo-3-Chloropropane	BDL	500	ug/l	8260B	05/03/15	100
1,2-Dibromoethane	BDL	100	ug/l	8260B	05/03/15	100
Dibromomethane	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,3-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,4-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
Dichlorodifluoromethane	BDL	500	ug/l	8260B	05/03/15	100
1,1-Dichloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
cis-1,2-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
trans-1,2-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100
1,1-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
1,3-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:08

ESC Sample # : L761248-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
trans-1,3-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
2,2-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100
Di-isopropyl ether	BDL	100	ug/l	8260B	05/03/15	100
Ethylbenzene	120	100	ug/l	8260B	05/03/15	100
Hexachloro-1,3-butadiene	BDL	100	ug/l	8260B	05/03/15	100
Isopropylbenzene	BDL	100	ug/l	8260B	05/03/15	100
p-Isopropyltoluene	100	100	ug/l	8260B	05/03/15	100
2-Butanone (MEK)	BDL	1000	ug/l	8260B	05/03/15	100
Methylene Chloride	BDL	500	ug/l	8260B	05/03/15	100
4-Methyl-2-pentanone (MIBK)	BDL	1000	ug/l	8260B	05/03/15	100
Methyl tert-butyl ether	BDL	100	ug/l	8260B	05/03/15	100
Naphthalene	BDL	500	ug/l	8260B	05/03/15	100
n-Propylbenzene	160	100	ug/l	8260B	05/03/15	100
Styrene	BDL	100	ug/l	8260B	05/03/15	100
1,1,1,2-Tetrachloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1,2,2-Tetrachloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1,2-Trichlorotrifluoroethane	BDL	100	ug/l	8260B	05/03/15	100
Tetrachloroethene	BDL	100	ug/l	8260B	05/03/15	100
Toluene	BDL	500	ug/l	8260B	05/03/15	100
1,2,3-Trichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,2,4-Trichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,1,1-Trichloroethane	120	100	ug/l	8260B	05/03/15	100
1,1,2-Trichloroethane	BDL	100	ug/l	8260B	05/03/15	100
Trichloroethene	36000	2000	ug/l	8260B	05/06/15	2000
Trichlorofluoromethane	BDL	500	ug/l	8260B	05/03/15	100
1,2,3-Trichloropropane	BDL	250	ug/l	8260B	05/03/15	100
1,2,4-Trimethylbenzene	480	100	ug/l	8260B	05/03/15	100
1,2,3-Trimethylbenzene	390	100	ug/l	8260B	05/03/15	100
1,3,5-Trimethylbenzene	330	100	ug/l	8260B	05/03/15	100
Vinyl chloride	BDL	100	ug/l	8260B	05/03/15	100
Xylenes, Total	520	300	ug/l	8260B	05/03/15	100
Surrogate Recovery						
Toluene-d8	92.5		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	97.2		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	104.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	130000	2000	ug/l	MADEPE	04/28/15	20
C9-C18 Aliphatics	76000	2000	ug/l	MADEPE	04/28/15	20
C19-C36 Aliphatics	18000	2000	ug/l	MADEPE	04/28/15	20
C11-C22 Aromatics	33000	2000	ug/l	MADEPE	04/28/15	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	MADEPE	04/28/15	20
1-Chloro-octadecane	0.00		% Rec.	MADEPE	04/28/15	20

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

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Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:08

ESC Sample # : L761248-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	0.00		% Rec.	MADEPE	04/28/15	20
2-Bromonaphthalene	0.00		% Rec.	MADEPE	04/28/15	20
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	5.3	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	2.1	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	78.	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	100	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	3.0	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:08

ESC Sample # : L761248-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	7.6	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	390	5.0	ug/l	8270D	04/28/15	5
Surrogate Recovery						
Nitrobenzene-d5	98.8		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	44.8		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	49.8		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:35

ESC Sample # : L761248-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	4300	500	ug/l	MADEPV	05/05/15	5
C5-C8 Aliphatics	BDL	500	ug/l	MADEPV	05/05/15	5
C9-C12 Aliphatics	5800	500	ug/l	MADEPV	05/05/15	5
C9-C10 Aromatics	1700	500	ug/l	MADEPV	05/05/15	5
Surrogate Recovery						
2,5-Dibromotoluene(FID)	97.9		% Rec.	MADEPV	05/05/15	1
2,5-Dibromotoluene(PID)	91.0		% Rec.	MADEPV	05/05/15	1
Volatile Organics						
Acetone	BDL	2500	ug/l	8260B	05/03/15	50
Acrolein	BDL	2500	ug/l	8260B	05/03/15	50
Acrylonitrile	BDL	500	ug/l	8260B	05/03/15	50
Benzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromodichloromethane	BDL	50.	ug/l	8260B	05/03/15	50
Bromoform	BDL	50.	ug/l	8260B	05/03/15	50
Bromomethane	BDL	250	ug/l	8260B	05/03/15	50
n-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
sec-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
tert-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Carbon tetrachloride	BDL	50.	ug/l	8260B	05/03/15	50
Chlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Chlorodibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
Chloroethane	BDL	250	ug/l	8260B	05/03/15	50
2-Chloroethyl vinyl ether	BDL	2500	ug/l	8260B	05/03/15	50
Chloroform	BDL	250	ug/l	8260B	05/03/15	50
Chloromethane	BDL	120	ug/l	8260B	05/03/15	50
2-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
4-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dibromo-3-Chloropropane	BDL	250	ug/l	8260B	05/03/15	50
1,2-Dibromoethane	BDL	50.	ug/l	8260B	05/03/15	50
Dibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,4-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Dichlorodifluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,1-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
cis-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-10 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:35

ESC Sample # : L761248-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
2,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
Di-isopropyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Ethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Hexachloro-1,3-butadiene	BDL	50.	ug/l	8260B	05/03/15	50
Isopropylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
p-Isopropyltoluene	BDL	50.	ug/l	8260B	05/03/15	50
2-Butanone (MEK)	BDL	500	ug/l	8260B	05/03/15	50
Methylene Chloride	BDL	250	ug/l	8260B	05/03/15	50
4-Methyl-2-pentanone (MIBK)	BDL	500	ug/l	8260B	05/03/15	50
Methyl tert-butyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Naphthalene	BDL	250	ug/l	8260B	05/03/15	50
n-Propylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Styrene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichlorotrifluoroethane	BDL	50.	ug/l	8260B	05/03/15	50
Tetrachloroethene	BDL	50.	ug/l	8260B	05/03/15	50
Toluene	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,4-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
Trichloroethene	74.	50.	ug/l	8260B	05/03/15	50
Trichlorofluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichloropropane	BDL	120	ug/l	8260B	05/03/15	50
1,2,4-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,3-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3,5-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Vinyl chloride	BDL	50.	ug/l	8260B	05/03/15	50
Xylenes, Total	BDL	150	ug/l	8260B	05/03/15	50
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	93.5		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	105.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	150000	2000	ug/l	MADEPE	04/28/15	20
C9-C18 Aliphatics	93000	2000	ug/l	MADEPE	04/28/15	20
C19-C36 Aliphatics	24000	2000	ug/l	MADEPE	04/28/15	20
C11-C22 Aromatics	31000	2000	ug/l	MADEPE	04/28/15	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	MADEPE	04/28/15	20
1-Chloro-octadecane	0.00		% Rec.	MADEPE	04/28/15	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-10 (V8260) - Non-target compounds too high to run at a lower dilution.



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:35

ESC Sample # : L761248-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	0.00		% Rec.	MADEPE	04/28/15	20
2-Bromonaphthalene	0.00		% Rec.	MADEPE	04/28/15	20
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	4.8	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	2.1	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	34.	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-10 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 10:35

ESC Sample # : L761248-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	6.9	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	18.	1.0	ug/l	8270D	04/27/15	1
Surrogate Recovery						
Nitrobenzene-d5	156.		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	73.0		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	70.2		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00

L761248-10 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:04

ESC Sample # : L761248-11

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	760	100	ug/l	MADEPV	05/05/15	1
C5-C8 Aliphatics	BDL	100	ug/l	MADEPV	05/05/15	1
C9-C12 Aliphatics	960	100	ug/l	MADEPV	05/05/15	1
C9-C10 Aromatics	300	100	ug/l	MADEPV	05/05/15	1
Surrogate Recovery						
2,5-Dibromotoluene(FID)	102.		% Rec.	MADEPV	05/05/15	1
2,5-Dibromotoluene(PID)	91.5		% Rec.	MADEPV	05/05/15	1
Volatile Organics						
Acetone	480	50.	ug/l	8260B	05/06/15	1
Acrolein	BDL	50.	ug/l	8260B	05/06/15	1
Acrylonitrile	BDL	10.	ug/l	8260B	05/06/15	1
Benzene	BDL	1.0	ug/l	8260B	05/06/15	1
Bromobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	05/06/15	1
Bromoform	BDL	1.0	ug/l	8260B	05/06/15	1
Bromomethane	BDL	5.0	ug/l	8260B	05/06/15	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	05/06/15	1
Chlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	05/06/15	1
Chloroethane	BDL	5.0	ug/l	8260B	05/06/15	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	05/06/15	1
Chloroform	BDL	5.0	ug/l	8260B	05/06/15	1
Chloromethane	BDL	2.5	ug/l	8260B	05/06/15	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	05/06/15	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	05/06/15	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	05/06/15	1
Dibromomethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	05/06/15	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:04

ESC Sample # : L761248-11

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	05/06/15	1
Ethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	05/06/15	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	05/06/15	1
2-Butanone (MEK)	33.	10.	ug/l	8260B	05/06/15	1
Methylene Chloride	BDL	5.0	ug/l	8260B	05/06/15	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	05/06/15	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	05/06/15	1
Naphthalene	BDL	5.0	ug/l	8260B	05/06/15	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Styrene	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	05/06/15	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
Toluene	BDL	5.0	ug/l	8260B	05/06/15	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
Trichloroethene	2.7	1.0	ug/l	8260B	05/06/15	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	05/06/15	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	05/06/15	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Vinyl chloride	BDL	1.0	ug/l	8260B	05/06/15	1
Xylenes, Total	BDL	3.0	ug/l	8260B	05/06/15	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	05/06/15	1
Dibromofluoromethane	103.		% Rec.	8260B	05/06/15	1
4-Bromofluorobenzene	107.		% Rec.	8260B	05/06/15	1
Extractable Petroleum Hydrocarb	20000	100	ug/l	MADEPE	04/28/15	1
C9-C18 Aliphatics	12000	500	ug/l	MADEPE	04/28/15	5
C19-C36 Aliphatics	3800	100	ug/l	MADEPE	04/27/15	1
C11-C22 Aromatics	3700	100	ug/l	MADEPE	04/28/15	1
Surrogate Recovery						
o-Terphenyl	72.7		% Rec.	MADEPE	04/28/15	1
1-Chloro-octadecane	46.3		% Rec.	MADEPE	04/27/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:04

ESC Sample # : L761248-11

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	73.2		% Rec.	MADEPE	04/28/15	1
2-Bromonaphthalene	86.2		% Rec.	MADEPE	04/28/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	1.2	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	4.1	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-11

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-41 TEST 2 GW

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 11:04

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	1.2	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	1.6	1.0	ug/l	8270D	04/27/15	1
Surrogate Recovery						
Nitrobenzene-d5	97.0		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	85.7		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	79.3		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:00



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:28

ESC Sample # : L761248-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	3100	100	ug/l	MADEPV	05/06/15	1
C5-C8 Aliphatics	BDL	100	ug/l	MADEPV	05/06/15	1
C9-C12 Aliphatics	4300	100	ug/l	MADEPV	05/06/15	1
C9-C10 Aromatics	1200	100	ug/l	MADEPV	05/06/15	1
Surrogate Recovery						
2,5-Dibromotoluene(FID)	99.9		% Rec.	MADEPV	05/06/15	1
2,5-Dibromotoluene(PID)	79.6		% Rec.	MADEPV	05/06/15	1
Volatile Organics						
Acetone	BDL	2500	ug/l	8260B	05/03/15	50
Acrolein	BDL	2500	ug/l	8260B	05/03/15	50
Acrylonitrile	BDL	500	ug/l	8260B	05/03/15	50
Benzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromodichloromethane	BDL	50.	ug/l	8260B	05/03/15	50
Bromoform	BDL	50.	ug/l	8260B	05/03/15	50
Bromomethane	BDL	250	ug/l	8260B	05/03/15	50
n-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
sec-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
tert-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Carbon tetrachloride	BDL	50.	ug/l	8260B	05/03/15	50
Chlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Chlorodibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
Chloroethane	BDL	250	ug/l	8260B	05/03/15	50
2-Chloroethyl vinyl ether	BDL	2500	ug/l	8260B	05/03/15	50
Chloroform	BDL	250	ug/l	8260B	05/03/15	50
Chloromethane	BDL	120	ug/l	8260B	05/03/15	50
2-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
4-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dibromo-3-Chloropropane	BDL	250	ug/l	8260B	05/03/15	50
1,2-Dibromoethane	BDL	50.	ug/l	8260B	05/03/15	50
Dibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,4-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Dichlorodifluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,1-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
cis-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-12 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:28

ESC Sample # : L761248-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
2,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
Di-isopropyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Ethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Hexachloro-1,3-butadiene	BDL	50.	ug/l	8260B	05/03/15	50
Isopropylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
p-Isopropyltoluene	BDL	50.	ug/l	8260B	05/03/15	50
2-Butanone (MEK)	BDL	500	ug/l	8260B	05/03/15	50
Methylene Chloride	BDL	250	ug/l	8260B	05/03/15	50
4-Methyl-2-pentanone (MIBK)	BDL	500	ug/l	8260B	05/03/15	50
Methyl tert-butyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Naphthalene	BDL	250	ug/l	8260B	05/03/15	50
n-Propylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Styrene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichlorotrifluoroethane	BDL	50.	ug/l	8260B	05/03/15	50
Tetrachloroethene	BDL	50.	ug/l	8260B	05/03/15	50
Toluene	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,4-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
Trichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
Trichlorofluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichloropropane	BDL	120	ug/l	8260B	05/03/15	50
1,2,4-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,3-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3,5-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Vinyl chloride	BDL	50.	ug/l	8260B	05/03/15	50
Xylenes, Total	BDL	150	ug/l	8260B	05/03/15	50
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	92.6		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	102.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	180000	2000	ug/l	MADEPE	04/28/15	20
C9-C18 Aliphatics	120000	4000	ug/l	MADEPE	04/28/15	40
C19-C36 Aliphatics	33000	2000	ug/l	MADEPE	04/28/15	20
C11-C22 Aromatics	25000	2000	ug/l	MADEPE	04/28/15	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	MADEPE	04/28/15	20
1-Chloro-octadecane	0.00		% Rec.	MADEPE	04/28/15	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-12 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
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May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:28

ESC Sample # : L761248-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	0.00		% Rec.	MADEPE	04/28/15	20
2-Bromonaphthalene	0.00		% Rec.	MADEPE	04/28/15	20
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	5.5	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	2.2	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	14.	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-12 (V8260) - Non-target compounds too high to run at a lower dilution.



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-41 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 11:28

ESC Sample # : L761248-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	6.9	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Surrogate Recovery						
Nitrobenzene-d5	159.		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	77.7		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	81.0		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:01

L761248-12 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 12:59

ESC Sample # : L761248-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	24000	2000	ug/l	MADEPV	05/06/15	20
C5-C8 Aliphatics	7200	2000	ug/l	MADEPV	05/06/15	20
C9-C12 Aliphatics	28000	2000	ug/l	MADEPV	05/06/15	20
C9-C10 Aromatics	12000	2000	ug/l	MADEPV	05/06/15	20
Surrogate Recovery						
2,5-Dibromotoluene(FID)	94.0		% Rec.	MADEPV	05/06/15	1
2,5-Dibromotoluene(PID)	79.9		% Rec.	MADEPV	05/06/15	1
Volatile Organics						
Acetone	BDL	5000	ug/l	8260B	05/03/15	100
Acrolein	BDL	5000	ug/l	8260B	05/03/15	100
Acrylonitrile	BDL	1000	ug/l	8260B	05/03/15	100
Benzene	BDL	100	ug/l	8260B	05/03/15	100
Bromobenzene	BDL	100	ug/l	8260B	05/03/15	100
Bromodichloromethane	BDL	100	ug/l	8260B	05/03/15	100
Bromoform	BDL	100	ug/l	8260B	05/03/15	100
Bromomethane	BDL	500	ug/l	8260B	05/03/15	100
n-Butylbenzene	260	100	ug/l	8260B	05/03/15	100
sec-Butylbenzene	270	100	ug/l	8260B	05/03/15	100
tert-Butylbenzene	BDL	100	ug/l	8260B	05/03/15	100
Carbon tetrachloride	BDL	100	ug/l	8260B	05/03/15	100
Chlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
Chlorodibromomethane	BDL	100	ug/l	8260B	05/03/15	100
Chloroethane	BDL	500	ug/l	8260B	05/03/15	100
2-Chloroethyl vinyl ether	BDL	5000	ug/l	8260B	05/03/15	100
Chloroform	BDL	500	ug/l	8260B	05/03/15	100
Chloromethane	BDL	250	ug/l	8260B	05/03/15	100
2-Chlorotoluene	BDL	100	ug/l	8260B	05/03/15	100
4-Chlorotoluene	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dibromo-3-Chloropropane	BDL	500	ug/l	8260B	05/03/15	100
1,2-Dibromoethane	BDL	100	ug/l	8260B	05/03/15	100
Dibromomethane	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,3-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,4-Dichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
Dichlorodifluoromethane	BDL	500	ug/l	8260B	05/03/15	100
1,1-Dichloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
cis-1,2-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
trans-1,2-Dichloroethene	BDL	100	ug/l	8260B	05/03/15	100
1,2-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100
1,1-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
1,3-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 12:59

ESC Sample # : L761248-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
trans-1,3-Dichloropropene	BDL	100	ug/l	8260B	05/03/15	100
2,2-Dichloropropane	BDL	100	ug/l	8260B	05/03/15	100
Di-isopropyl ether	BDL	100	ug/l	8260B	05/03/15	100
Ethylbenzene	BDL	100	ug/l	8260B	05/03/15	100
Hexachloro-1,3-butadiene	BDL	100	ug/l	8260B	05/03/15	100
Isopropylbenzene	170	100	ug/l	8260B	05/03/15	100
p-Isopropyltoluene	180	100	ug/l	8260B	05/03/15	100
2-Butanone (MEK)	BDL	1000	ug/l	8260B	05/03/15	100
Methylene Chloride	BDL	500	ug/l	8260B	05/03/15	100
4-Methyl-2-pentanone (MIBK)	BDL	1000	ug/l	8260B	05/03/15	100
Methyl tert-butyl ether	BDL	100	ug/l	8260B	05/03/15	100
Naphthalene	1500	500	ug/l	8260B	05/03/15	100
n-Propylbenzene	280	100	ug/l	8260B	05/03/15	100
Styrene	BDL	100	ug/l	8260B	05/03/15	100
1,1,1,2-Tetrachloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1,2,2-Tetrachloroethane	BDL	100	ug/l	8260B	05/03/15	100
1,1,2-Trichlorotrifluoroethane	BDL	100	ug/l	8260B	05/03/15	100
Tetrachloroethene	BDL	100	ug/l	8260B	05/03/15	100
Toluene	BDL	500	ug/l	8260B	05/03/15	100
1,2,3-Trichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,2,4-Trichlorobenzene	BDL	100	ug/l	8260B	05/03/15	100
1,1,1-Trichloroethane	210	100	ug/l	8260B	05/03/15	100
1,1,2-Trichloroethane	BDL	100	ug/l	8260B	05/03/15	100
Trichloroethene	12000	100	ug/l	8260B	05/03/15	100
Trichlorofluoromethane	BDL	500	ug/l	8260B	05/03/15	100
1,2,3-Trichloropropane	BDL	250	ug/l	8260B	05/03/15	100
1,2,4-Trimethylbenzene	1800	100	ug/l	8260B	05/03/15	100
1,2,3-Trimethylbenzene	780	100	ug/l	8260B	05/03/15	100
1,3,5-Trimethylbenzene	360	100	ug/l	8260B	05/03/15	100
Vinyl chloride	BDL	100	ug/l	8260B	05/03/15	100
Xylenes, Total	760	300	ug/l	8260B	05/03/15	100
Surrogate Recovery						
Toluene-d8	95.3		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	91.8		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	102.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	2200000	5000	ug/l	MADEPE	04/28/15	50
C9-C18 Aliphatics	1400000	50000	ug/l	MADEPE	04/28/15	500
C19-C36 Aliphatics	2700000	5000	ug/l	MADEPE	04/28/15	50
C11-C22 Aromatics	4800000	10000	ug/l	MADEPE	04/28/15	100
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	MADEPE	04/28/15	100
1-Chloro-octadecane	0.00		% Rec.	MADEPE	04/28/15	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 12:59

ESC Sample # : L761248-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	0.00		% Rec.	MADEPE	04/28/15	100
2-Bromonaphthalene	0.00		% Rec.	MADEPE	04/28/15	100
Base/Neutral Extractables						
Acenaphthene	680	50.	ug/l	8270D	04/28/15	50
Acenaphthylene	120	50.	ug/l	8270D	04/28/15	50
Anthracene	71.	50.	ug/l	8270D	04/28/15	50
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	2.1	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	500	ug/l	8270D	04/28/15	50
Bis(2-chloroethyl)ether	BDL	500	ug/l	8270D	04/28/15	50
Bis(2-chloroisopropyl)ether	BDL	500	ug/l	8270D	04/28/15	50
4-Bromophenyl-phenylether	BDL	500	ug/l	8270D	04/28/15	50
2-Chloronaphthalene	BDL	50.	ug/l	8270D	04/28/15	50
4-Chlorophenyl-phenylether	BDL	500	ug/l	8270D	04/28/15	50
Chrysene	2.1	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	500	ug/l	8270D	04/28/15	50
1,3-Dichlorobenzene	BDL	500	ug/l	8270D	04/28/15	50
1,4-Dichlorobenzene	BDL	500	ug/l	8270D	04/28/15	50
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	500	ug/l	8270D	04/28/15	50
2,6-Dinitrotoluene	BDL	500	ug/l	8270D	04/28/15	50
Fluoranthene	BDL	50.	ug/l	8270D	04/28/15	50
Fluorene	760	50.	ug/l	8270D	04/28/15	50
Hexachlorobenzene	BDL	50.	ug/l	8270D	04/28/15	50
Hexachloro-1,3-butadiene	BDL	500	ug/l	8270D	04/28/15	50
Hexachlorocyclopentadiene	BDL	500	ug/l	8270D	04/28/15	50
Hexachloroethane	BDL	500	ug/l	8270D	04/28/15	50
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	500	ug/l	8270D	04/28/15	50
Naphthalene	2000	50.	ug/l	8270D	04/28/15	50
Nitrobenzene	BDL	500	ug/l	8270D	04/28/15	50
n-Nitrosodimethylamine	BDL	500	ug/l	8270D	04/28/15	50
n-Nitrosodiphenylamine	BDL	500	ug/l	8270D	04/28/15	50
n-Nitrosodi-n-propylamine	BDL	500	ug/l	8270D	04/28/15	50
Phenanthrene	2100	50.	ug/l	8270D	04/28/15	50
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	150	ug/l	8270D	04/28/15	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 CONTROL GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 12:59

ESC Sample # : L761248-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	150	ug/l	8270D	04/28/15	50
Dimethyl phthalate	BDL	150	ug/l	8270D	04/28/15	50
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	140	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	500	ug/l	8270D	04/28/15	50
2-Methylnaphthalene	11000	50.	ug/l	8270D	04/28/15	50
Surrogate Recovery						
Nitrobenzene-d5	288.		% Rec.	8270D	04/28/15	50
2-Fluorobiphenyl	170.		% Rec.	8270D	04/28/15	50
p-Terphenyl-d14	63.0		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:01



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:22

ESC Sample # : L761248-14

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	18000	1000	ug/l	MADEPV	05/07/15	10
C5-C8 Aliphatics	1300	1000	ug/l	MADEPV	05/07/15	10
C9-C12 Aliphatics	22000	1000	ug/l	MADEPV	05/07/15	10
C9-C10 Aromatics	5800	1000	ug/l	MADEPV	05/07/15	10
Surrogate Recovery						
2,5-Dibromotoluene(FID)	103.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	85.4		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	2500	ug/l	8260B	05/03/15	50
Acrolein	BDL	2500	ug/l	8260B	05/03/15	50
Acrylonitrile	BDL	500	ug/l	8260B	05/03/15	50
Benzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Bromodichloromethane	BDL	50.	ug/l	8260B	05/03/15	50
Bromoform	BDL	50.	ug/l	8260B	05/03/15	50
Bromomethane	BDL	250	ug/l	8260B	05/03/15	50
n-Butylbenzene	63.	50.	ug/l	8260B	05/03/15	50
sec-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
tert-Butylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Carbon tetrachloride	BDL	50.	ug/l	8260B	05/03/15	50
Chlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Chlorodibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
Chloroethane	BDL	250	ug/l	8260B	05/03/15	50
2-Chloroethyl vinyl ether	BDL	2500	ug/l	8260B	05/03/15	50
Chloroform	BDL	250	ug/l	8260B	05/03/15	50
Chloromethane	BDL	120	ug/l	8260B	05/03/15	50
2-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
4-Chlorotoluene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dibromo-3-Chloropropane	BDL	250	ug/l	8260B	05/03/15	50
1,2-Dibromoethane	BDL	50.	ug/l	8260B	05/03/15	50
Dibromomethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,4-Dichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
Dichlorodifluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,1-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
cis-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,2-Dichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
1,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
1,1-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
1,3-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-14 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:22

ESC Sample # : L761248-14

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
trans-1,3-Dichloropropene	BDL	50.	ug/l	8260B	05/03/15	50
2,2-Dichloropropane	BDL	50.	ug/l	8260B	05/03/15	50
Di-isopropyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Ethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Hexachloro-1,3-butadiene	BDL	50.	ug/l	8260B	05/03/15	50
Isopropylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
p-Isopropyltoluene	BDL	50.	ug/l	8260B	05/03/15	50
2-Butanone (MEK)	BDL	500	ug/l	8260B	05/03/15	50
Methylene Chloride	BDL	250	ug/l	8260B	05/03/15	50
4-Methyl-2-pentanone (MIBK)	BDL	500	ug/l	8260B	05/03/15	50
Methyl tert-butyl ether	BDL	50.	ug/l	8260B	05/03/15	50
Naphthalene	BDL	250	ug/l	8260B	05/03/15	50
n-Propylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Styrene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2,2-Tetrachloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichlorotrifluoroethane	BDL	50.	ug/l	8260B	05/03/15	50
Tetrachloroethene	BDL	50.	ug/l	8260B	05/03/15	50
Toluene	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,4-Trichlorobenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,1,1-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
1,1,2-Trichloroethane	BDL	50.	ug/l	8260B	05/03/15	50
Trichloroethene	BDL	50.	ug/l	8260B	05/03/15	50
Trichlorofluoromethane	BDL	250	ug/l	8260B	05/03/15	50
1,2,3-Trichloropropane	BDL	120	ug/l	8260B	05/03/15	50
1,2,4-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,2,3-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
1,3,5-Trimethylbenzene	BDL	50.	ug/l	8260B	05/03/15	50
Vinyl chloride	BDL	50.	ug/l	8260B	05/03/15	50
Xylenes, Total	BDL	150	ug/l	8260B	05/03/15	50
Surrogate Recovery						
Toluene-d8	98.1		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	90.9		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	104.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	1400000	5000	ug/l	MADEPE	04/28/15	50
C9-C18 Aliphatics	870000	20000	ug/l	MADEPE	04/28/15	200
C19-C36 Aliphatics	180000	5000	ug/l	MADEPE	04/28/15	50
C11-C22 Aromatics	310000	5000	ug/l	MADEPE	04/28/15	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	MADEPE	04/28/15	50
1-Chloro-octadecane	0.00		% Rec.	MADEPE	04/28/15	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-14 (V8260) - Non-target compounds too high to run at a lower dilution.



12065 Lebanon Rd.
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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 1 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:22

ESC Sample # : L761248-14

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	0.00		% Rec.	MADEPE	04/28/15	50
2-Bromonaphthalene	0.00		% Rec.	MADEPE	04/28/15	50
Base/Neutral Extractables						
Acenaphthene	78.	20.	ug/l	8270D	04/28/15	20
Acenaphthylene	BDL	20.	ug/l	8270D	04/28/15	20
Anthracene	29.	20.	ug/l	8270D	04/28/15	20
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	200	ug/l	8270D	04/28/15	20
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	200	ug/l	8270D	04/28/15	20
2-Chloronaphthalene	BDL	20.	ug/l	8270D	04/28/15	20
4-Chlorophenyl-phenylether	BDL	200	ug/l	8270D	04/28/15	20
Chrysene	1.2	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	200	ug/l	8270D	04/28/15	20
2,6-Dinitrotoluene	BDL	200	ug/l	8270D	04/28/15	20
Fluoranthene	BDL	20.	ug/l	8270D	04/28/15	20
Fluorene	110	20.	ug/l	8270D	04/28/15	20
Hexachlorobenzene	BDL	20.	ug/l	8270D	04/28/15	20
Hexachloro-1,3-butadiene	BDL	200	ug/l	8270D	04/28/15	20
Hexachlorocyclopentadiene	BDL	200	ug/l	8270D	04/28/15	20
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	200	ug/l	8270D	04/28/15	20
Naphthalene	BDL	20.	ug/l	8270D	04/28/15	20
Nitrobenzene	BDL	200	ug/l	8270D	04/28/15	20
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	200	ug/l	8270D	04/28/15	20
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	250	20.	ug/l	8270D	04/28/15	20
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	60.	ug/l	8270D	04/28/15	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-14 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-14

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-42 TEST 1 GW

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 13:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	60.	ug/l	8270D	04/28/15	20
Dimethyl phthalate	BDL	60.	ug/l	8270D	04/28/15	20
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	58.	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	200	ug/l	8270D	04/28/15	20
2-Methylnaphthalene	110	20.	ug/l	8270D	04/28/15	20
Surrogate Recovery						
Nitrobenzene-d5	414.		% Rec.	8270D	04/28/15	20
2-Fluorobiphenyl	144.		% Rec.	8270D	04/28/15	20
p-Terphenyl-d14	93.2		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:01

L761248-14 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:48

ESC Sample # : L761248-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	9000	1000	ug/l	MADEPV	05/07/15	10
C5-C8 Aliphatics	BDL	1000	ug/l	MADEPV	05/07/15	10
C9-C12 Aliphatics	11000	1000	ug/l	MADEPV	05/07/15	10
C9-C10 Aromatics	2800	1000	ug/l	MADEPV	05/07/15	10
Surrogate Recovery						
2,5-Dibromotoluene(FID)	109.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	88.6		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	560	50.	ug/l	8260B	05/06/15	1
Acrolein	BDL	50.	ug/l	8260B	05/06/15	1
Acrylonitrile	BDL	10.	ug/l	8260B	05/06/15	1
Benzene	BDL	1.0	ug/l	8260B	05/06/15	1
Bromobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	05/06/15	1
Bromoform	BDL	1.0	ug/l	8260B	05/06/15	1
Bromomethane	BDL	5.0	ug/l	8260B	05/06/15	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	05/06/15	1
Chlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	05/06/15	1
Chloroethane	BDL	5.0	ug/l	8260B	05/06/15	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	05/06/15	1
Chloroform	BDL	5.0	ug/l	8260B	05/06/15	1
Chloromethane	BDL	2.5	ug/l	8260B	05/06/15	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	05/06/15	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	05/06/15	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	05/06/15	1
Dibromomethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	05/06/15	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)



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Est. 1970

REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:48

ESC Sample # : L761248-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/06/15	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/06/15	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	05/06/15	1
Ethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	05/06/15	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	05/06/15	1
2-Butanone (MEK)	40.	10.	ug/l	8260B	05/06/15	1
Methylene Chloride	BDL	5.0	ug/l	8260B	05/06/15	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	05/06/15	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	05/06/15	1
Naphthalene	BDL	5.0	ug/l	8260B	05/06/15	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Styrene	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	05/06/15	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
Toluene	BDL	5.0	ug/l	8260B	05/06/15	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	05/06/15	1
Trichloroethene	BDL	1.0	ug/l	8260B	05/06/15	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	05/06/15	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	05/06/15	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/06/15	1
Vinyl chloride	BDL	1.0	ug/l	8260B	05/06/15	1
Xylenes, Total	BDL	3.0	ug/l	8260B	05/06/15	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	05/06/15	1
Dibromofluoromethane	103.		% Rec.	8260B	05/06/15	1
4-Bromofluorobenzene	106.		% Rec.	8260B	05/06/15	1
Extractable Petroleum Hydrocarb	8500	100	ug/l	MADEPE	04/28/15	1
C9-C18 Aliphatics	5100	500	ug/l	MADEPE	04/28/15	5
C19-C36 Aliphatics	1400	100	ug/l	MADEPE	04/27/15	1
C11-C22 Aromatics	2000	100	ug/l	MADEPE	04/28/15	1
Surrogate Recovery						
o-Terphenyl	70.7		% Rec.	MADEPE	04/28/15	1
1-Chloro-octadecane	53.8		% Rec.	MADEPE	04/27/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:48

ESC Sample # : L761248-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	75.5		% Rec.	MADEPE	04/28/15	1
2-Bromonaphthalene	103.		% Rec.	MADEPE	04/28/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	3.4	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)



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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 2 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 13:48

ESC Sample # : L761248-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	1.0	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Surrogate Recovery						
Nitrobenzene-d5	98.9		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	79.2		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	73.1		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:01



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REPORT OF ANALYSIS

May 11, 2015

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

ESC Sample # : L761248-16

Date Received : April 24, 2015
Description : NC Bench Testing

Site ID :

Sample ID : SS-42 TEST 3 GW

Project # :

Collected By : Tyler Wooden
Collection Date : 04/23/15 14:12

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Petroleum Hydrocarbons	530	100	ug/l	MADEPV	05/07/15	1
C5-C8 Aliphatics	100	100	ug/l	MADEPV	05/07/15	1
C9-C12 Aliphatics	620	100	ug/l	MADEPV	05/07/15	1
C9-C10 Aromatics	190	100	ug/l	MADEPV	05/07/15	1
Surrogate Recovery						
2,5-Dibromotoluene(FID)	112.		% Rec.	MADEPV	05/07/15	1
2,5-Dibromotoluene(PID)	91.8		% Rec.	MADEPV	05/07/15	1
Volatile Organics						
Acetone	BDL	1000	ug/l	8260B	05/03/15	20
Acrolein	BDL	1000	ug/l	8260B	05/03/15	20
Acrylonitrile	BDL	200	ug/l	8260B	05/03/15	20
Benzene	BDL	20.	ug/l	8260B	05/03/15	20
Bromobenzene	BDL	20.	ug/l	8260B	05/03/15	20
Bromodichloromethane	BDL	20.	ug/l	8260B	05/03/15	20
Bromoform	BDL	20.	ug/l	8260B	05/03/15	20
Bromomethane	BDL	100	ug/l	8260B	05/03/15	20
n-Butylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
sec-Butylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
tert-Butylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
Carbon tetrachloride	BDL	20.	ug/l	8260B	05/03/15	20
Chlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
Chlorodibromomethane	BDL	20.	ug/l	8260B	05/03/15	20
Chloroethane	BDL	100	ug/l	8260B	05/03/15	20
2-Chloroethyl vinyl ether	BDL	1000	ug/l	8260B	05/03/15	20
Chloroform	BDL	100	ug/l	8260B	05/03/15	20
Chloromethane	BDL	50.	ug/l	8260B	05/03/15	20
2-Chlorotoluene	BDL	20.	ug/l	8260B	05/03/15	20
4-Chlorotoluene	BDL	20.	ug/l	8260B	05/03/15	20
1,2-Dibromo-3-Chloropropane	BDL	100	ug/l	8260B	05/03/15	20
1,2-Dibromoethane	BDL	20.	ug/l	8260B	05/03/15	20
Dibromomethane	BDL	20.	ug/l	8260B	05/03/15	20
1,2-Dichlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,3-Dichlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,4-Dichlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
Dichlorodifluoromethane	BDL	100	ug/l	8260B	05/03/15	20
1,1-Dichloroethane	BDL	20.	ug/l	8260B	05/03/15	20
1,2-Dichloroethane	BDL	20.	ug/l	8260B	05/03/15	20
1,1-Dichloroethene	BDL	20.	ug/l	8260B	05/03/15	20
cis-1,2-Dichloroethene	BDL	20.	ug/l	8260B	05/03/15	20
trans-1,2-Dichloroethene	BDL	20.	ug/l	8260B	05/03/15	20
1,2-Dichloropropane	BDL	20.	ug/l	8260B	05/03/15	20
1,1-Dichloropropene	BDL	20.	ug/l	8260B	05/03/15	20
1,3-Dichloropropane	BDL	20.	ug/l	8260B	05/03/15	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-16 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:12

ESC Sample # : L761248-16

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
cis-1,3-Dichloropropene	BDL	20.	ug/l	8260B	05/03/15	20
trans-1,3-Dichloropropene	BDL	20.	ug/l	8260B	05/03/15	20
2,2-Dichloropropane	BDL	20.	ug/l	8260B	05/03/15	20
Di-isopropyl ether	BDL	20.	ug/l	8260B	05/03/15	20
Ethylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
Hexachloro-1,3-butadiene	BDL	20.	ug/l	8260B	05/03/15	20
Isopropylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
p-Isopropyltoluene	BDL	20.	ug/l	8260B	05/03/15	20
2-Butanone (MEK)	BDL	200	ug/l	8260B	05/03/15	20
Methylene Chloride	BDL	100	ug/l	8260B	05/03/15	20
4-Methyl-2-pentanone (MIBK)	BDL	200	ug/l	8260B	05/03/15	20
Methyl tert-butyl ether	BDL	20.	ug/l	8260B	05/03/15	20
Naphthalene	BDL	100	ug/l	8260B	05/03/15	20
n-Propylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
Styrene	BDL	20.	ug/l	8260B	05/03/15	20
1,1,1,2-Tetrachloroethane	BDL	20.	ug/l	8260B	05/03/15	20
1,1,2,2-Tetrachloroethane	BDL	20.	ug/l	8260B	05/03/15	20
1,1,2-Trichlorotrifluoroethane	BDL	20.	ug/l	8260B	05/03/15	20
Tetrachloroethene	BDL	20.	ug/l	8260B	05/03/15	20
Toluene	BDL	100	ug/l	8260B	05/03/15	20
1,2,3-Trichlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,2,4-Trichlorobenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,1,1-Trichloroethane	BDL	20.	ug/l	8260B	05/03/15	20
1,1,2-Trichloroethane	BDL	20.	ug/l	8260B	05/03/15	20
Trichloroethene	BDL	20.	ug/l	8260B	05/03/15	20
Trichlorofluoromethane	BDL	100	ug/l	8260B	05/03/15	20
1,2,3-Trichloropropane	BDL	50.	ug/l	8260B	05/03/15	20
1,2,4-Trimethylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,2,3-Trimethylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
1,3,5-Trimethylbenzene	BDL	20.	ug/l	8260B	05/03/15	20
Vinyl chloride	BDL	20.	ug/l	8260B	05/03/15	20
Xylenes, Total	BDL	60.	ug/l	8260B	05/03/15	20
Surrogate Recovery						
Toluene-d8	97.0		% Rec.	8260B	05/03/15	1
Dibromofluoromethane	91.4		% Rec.	8260B	05/03/15	1
4-Bromofluorobenzene	101.		% Rec.	8260B	05/03/15	1
Extractable Petroleum Hydrocarb	110000	1000	ug/l	MADEPE	04/28/15	10
C9-C18 Aliphatics	67000	2000	ug/l	MADEPE	04/28/15	20
C19-C36 Aliphatics	20000	2000	ug/l	MADEPE	04/28/15	20
C11-C22 Aromatics	22000	1000	ug/l	MADEPE	04/28/15	10
Surrogate Recovery						
o-Terphenyl	44.3		% Rec.	MADEPE	04/28/15	10
1-Chloro-octadecane	37.6		% Rec.	MADEPE	04/28/15	20

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-16 (V8260) - Non-target compounds too high to run at a lower dilution.



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REPORT OF ANALYSIS

Mr. Dan Bryant
Geo-Cleanse, Inc.
400 State Route 34
Matawan, NJ 07747

May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:12

ESC Sample # : L761248-16

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Fluorobiphenyl	110.		% Rec.	MADEPE	04/28/15	10
2-Bromonaphthalene	125.		% Rec.	MADEPE	04/28/15	10
Base/Neutral Extractables						
Acenaphthene	BDL	1.0	ug/l	8270D	04/27/15	1
Acenaphthylene	BDL	1.0	ug/l	8270D	04/27/15	1
Anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzidine	BDL	10.	ug/l	8270D	04/27/15	1
Benzo(a)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	8270D	04/27/15	1
Benzo(a)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Bis(2-chlorethoxy)methane	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroethyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
Bis(2-chloroisopropyl)ether	BDL	10.	ug/l	8270D	04/27/15	1
4-Bromophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
2-Chloronaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
4-Chlorophenyl-phenylether	BDL	10.	ug/l	8270D	04/27/15	1
Chrysene	BDL	1.0	ug/l	8270D	04/27/15	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	8270D	04/27/15	1
1,2-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,3-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
1,4-Dichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
3,3-Dichlorobenzidine	BDL	10.	ug/l	8270D	04/27/15	1
2,4-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
2,6-Dinitrotoluene	BDL	10.	ug/l	8270D	04/27/15	1
Fluoranthene	BDL	1.0	ug/l	8270D	04/27/15	1
Fluorene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachlorobenzene	BDL	1.0	ug/l	8270D	04/27/15	1
Hexachloro-1,3-butadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachlorocyclopentadiene	BDL	10.	ug/l	8270D	04/27/15	1
Hexachloroethane	BDL	10.	ug/l	8270D	04/27/15	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	8270D	04/27/15	1
Isophorone	BDL	10.	ug/l	8270D	04/27/15	1
Naphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Nitrobenzene	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodimethylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodiphenylamine	BDL	10.	ug/l	8270D	04/27/15	1
n-Nitrosodi-n-propylamine	BDL	10.	ug/l	8270D	04/27/15	1
Phenanthrene	16.	1.0	ug/l	8270D	04/27/15	1
Benzylbutyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Bis(2-ethylhexyl)phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-butyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

L761248-16 (V8260) - Non-target compounds too high to run at a lower dilution.



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May 11, 2015

Date Received : April 24, 2015
Description : NC Bench Testing
Sample ID : SS-42 TEST 3 GW
Collected By : Tyler Wooden
Collection Date : 04/23/15 14:12

ESC Sample # : L761248-16

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Diethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Dimethyl phthalate	BDL	3.0	ug/l	8270D	04/27/15	1
Di-n-octyl phthalate	BDL	1.0	ug/l	8270D	04/27/15	1
Pyrene	7.0	1.0	ug/l	8270D	04/27/15	1
1,2,4-Trichlorobenzene	BDL	10.	ug/l	8270D	04/27/15	1
2-Methylnaphthalene	BDL	1.0	ug/l	8270D	04/27/15	1
Surrogate Recovery						
Nitrobenzene-d5	152.		% Rec.	8270D	04/27/15	1
2-Fluorobiphenyl	82.4		% Rec.	8270D	04/27/15	1
p-Terphenyl-d14	76.2		% Rec.	8270D	04/27/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 05/08/15 09:44 Revised: 05/11/15 11:01

L761248-16 (V8260) - Non-target compounds too high to run at a lower dilution.

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L761248-01	WG784555	SAMP	Benzidine	R3033253	J4
L761248-02	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG786425	SAMP	4-Bromofluorobenzene	R3034856	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-03	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG786425	SAMP	4-Bromofluorobenzene	R3034856	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-04	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-05	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG786425	SAMP	Toluene-d8	R3034856	J2
	WG786425	SAMP	4-Bromofluorobenzene	R3034856	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-06	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG786425	SAMP	4-Bromofluorobenzene	R3034856	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-07	WG786060	SAMP	1,2,3-Trimethylbenzene	R3035858	V3
	WG786060	SAMP	4-Bromofluorobenzene	R3035858	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-08	WG786425	SAMP	Hexachloro-1,3-butadiene	R3034856	J4
	WG786425	SAMP	4-Bromofluorobenzene	R3034856	J1
	WG784555	SAMP	Benzidine	R3033253	J4
L761248-09	WG785011	SAMP	o-Terphenyl	R3033559	J7
	WG785011	SAMP	1-Chloro-octadecane	R3033559	J7
	WG785011	SAMP	2-Fluorobiphenyl	R3033559	J7
	WG785011	SAMP	2-Bromonaphthalene	R3033559	J7
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
L761248-10	WG785011	SAMP	o-Terphenyl	R3033559	J7
	WG785011	SAMP	1-Chloro-octadecane	R3033559	J7
	WG785011	SAMP	2-Fluorobiphenyl	R3033559	J7
	WG785011	SAMP	2-Bromonaphthalene	R3033559	J7
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
	WG784616	SAMP	Nitrobenzene-d5	R3033505	J1
L761248-11	WG786047	SAMP	2-Chloroethyl vinyl ether	R3035369	J4
L761248-12	WG785011	SAMP	o-Terphenyl	R3033559	J7
	WG785011	SAMP	1-Chloro-octadecane	R3033559	J7
	WG785011	SAMP	2-Fluorobiphenyl	R3033559	J7
	WG785011	SAMP	2-Bromonaphthalene	R3033559	J7
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
	WG784616	SAMP	Nitrobenzene-d5	R3033505	J1
L761248-13	WG785011	SAMP	o-Terphenyl	R3033643	J7
	WG785011	SAMP	1-Chloro-octadecane	R3033559	J7
	WG785011	SAMP	2-Fluorobiphenyl	R3033643	J7
	WG785011	SAMP	2-Bromonaphthalene	R3033643	J7
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
	WG784616	SAMP	Nitrobenzene-d5	R3033894	J7
	WG784616	SAMP	2-Fluorobiphenyl	R3033894	J7
L761248-14	WG785011	SAMP	o-Terphenyl	R3033559	J7
	WG785011	SAMP	1-Chloro-octadecane	R3033559	J7
	WG785011	SAMP	2-Fluorobiphenyl	R3033559	J7
	WG785011	SAMP	2-Bromonaphthalene	R3033559	J7
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
	WG784616	SAMP	Nitrobenzene-d5	R3033799	J7
	WG784616	SAMP	2-Fluorobiphenyl	R3033799	J7
L761248-15	WG786047	SAMP	2-Chloroethyl vinyl ether	R3035369	J4
L761248-16	WG785011	SAMP	1-Chloro-octadecane	R3033643	J2
	WG786376	SAMP	2-Chloroethyl vinyl ether	R3035145	J3
	WG784616	SAMP	Nitrobenzene-d5	R3033505	J1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V3	(ESC) - Additional QC Info: The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

APPENDIX M

SURFACTANT TREATABILITY BENCH TEST REPORT



June 26, 2015

Susan E. Kelly, PE, LG
Senior Engineer
Amec Foster Wheeler Environment and Infrastructure Inc
1308-C Patton Ave
Asheville, NC 28806

Dear Susan,

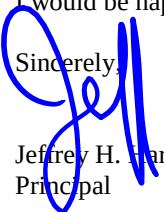
Attached please find Surbec's treatability study report for the CTS of Asheville site.

The initial focus of this study was to develop a surfactant formulation using the TASK product capable of mobilizing the LNAPL from this site. Three different surfactant formulations were examined with the goal of producing an ultralow interfacial tension i.e. $\leq 10^{-2}$ mN/m between the surfactant system and the site NAPL. Such formulations have been shown to have the greatest mobilization potential of aquifer contaminants. While each of the formulations tested produced ultralow tensions, the system consisting of 0.91 wt. % TASK surfactant with both sodium chloride and calcium chloride did so with the greatest range of sodium chloride concentrations. The formulation consisting of 0.91 wt. % TASK surfactant, 1.3 wt. % NaCl and 0.05 wt. % CaCl₂ produced a system having an interfacial tension of (0.00035 mN/m).

While the selected surfactant formulation proved to be very stable in the presence of excess CaCl₂, analysis of the data from the soil sorption and soil cores from the column tests indicated that there was an unidentified contaminant on the soil that was not removed during the baking of the soil during its preparation for use. The chromatographic analyses from both tests involving site soil indicated interference by this unknown contaminant(s). However, based on the column test results, the use of surfactant enhanced aquifer remediation could remove majority of spiked NAPL and provide a viable approach for source zone remediation.

I would be happy to discuss the results with you.

Sincerely,


Jeffrey H. Farwell, PhD
Principal

405.325-4375 (office)



BENCH-SCALE SURFACTANT TREATABILITY TEST REPORT

CTS of Asheville

Project Number 625212006

PREPARED FOR:

**Amec Foster Wheeler Environment and Infrastructure Inc
1308-C Patton Ave
Asheville, NC 28806**

PREPARED BY:

**SURBEC ENVIRONMENTAL, LLC
P.O. Box 722605
NORMAN, OKLAHOMA 73070**

June 26, 2015

Bench-Scale Surfactant Treatability Tests for CTS of Asheville

Tersus Environmental was contracted by Amec Foster Wheeler Environment and Infrastructure Inc. to conduct a laboratory treatability study for the purpose of formulating an optimal surfactant formulation capable for use in surfactant flushing in order to effectively mobilize and remove the targeted light non-aqueous phase liquid (LNAPL) trapped in a contaminated zone located at Asheville, North Carolina. Samples of site soil, NAPL, and ground water were collected and shipped to Surbec Environmental, LLC (Surbec) laboratories for study.

The main goal for the treatability study was to develop an optimal surfactant system suitable for site implementation. The specific experimental procedures of this study include:

- Conducting surfactant screening tests to identify optimized surfactant formulations under CTS of Asheville site conditions
- Investigating any potential negative impacts of ground water chemistry and soil characteristics on the targeted surfactant candidates through a series of batch experiments
- Assessing the NAPL recoveries from one-dimensional (1-D) soil columns to determine if the selected TASK surfactant systems can significantly remove the site NAPL (> 90% recovery)
- Determining the amount of TASK surfactant and the injection strategy to capable of achieving the NAPL recovery goals
- If viable, provide a single surfactant formulation and injection strategy capable of effectively remediating both NAPL and suitable for implementation in the field

Surbec's general approach in designing a surfactant flushing system for NAPL contamination is based on the following treatability tests:

1. **Physical Properties Determination:** For the site ground water, the density and total dissolved solids (TDS) are determined, and for the NAPL - the density and viscosity. If these site sample are obtained from different locations (well) the physical properties are determined for each sample. Please note - the viscosity aids in determining the necessity of polymer usage and, if needed, the optimal polymer concentration in a remediation effort. Effective NAPL mobilization requires a favorable NAPL/ground water mobility ratio.
2. **Phase Behavior Study:** This study determines the most effective surfactant formulation for producing a low viscosity formulation that will produce an ultralow NAPL/groundwater interfacial tension at the site.
3. **Precipitation and Phase Separation Studies:** After the most effective surfactant formulation is determined from the phase behavior study, precipitation and phase separation studies confirm the feasibility of usage of this surfactant system at the site.
4. **Soil Sorption Studies:** This study determines the amount of surfactant that could potentially adsorb onto the soil and the amount of surfactant that is subsequently available for the NAPL mobilization process.
5. **Column Studies:** One dimensional column studies simulate actual remedial surfactant injection design in a site-specific manner. However, Surbec uses a more conservative approach by using "worst" case or most difficult case scenarios in the column study to ensure success under actual field conditions. This primarily involves the use of initial residual NAPL saturations of 20% or higher.

Materials and Methods

Surbec has pre-screened several anionic surfactant candidates which have shown excellent capabilities for forming middle phase microemulsions for a variety of NAPLs and also exhibit reasonable sorption losses on a variety of site soils. These surfactants are categorized as either direct or indirect food additives by the US Food and Drug Administration. In order to identify an optimal surfactant formulation researchers at Surbec have developed a practical protocol to streamline the selection of possible surfactant candidates for site remediation based on the fact that the ability to remove the target contaminant is strongly influenced by the phase behavior between the NAPL and surfactant solution, and the interactions between surfactant and soils (Sabatini et al., 2006; Sabatini et al., 1998). This protocol involves a series of tests which are used to quantify the mobilization potential of several of the pre-screened surfactant/co-surfactant mixtures. These tests include studies of the phase behavior, formulation stability in the form of precipitation and phase separation, soil sorption and one-dimensional column tests. A description of the specific materials and methods used in this feasibility study follows.

1. Physical Property Studies

There are several factors which have the potential to impact the effectiveness for a given surfactant system to effectively remediate a contaminant NAPL. As such, several physical properties are determined for the site groundwater and NAPL. For the ground water the density and total dissolved solids (TDS) were measured, and for the NAPL the density and viscosity were measured at room temperature. The viscosity was determined using a falling ball viscometer (Thermo Scientific).

2. Phase Behavior Studies

A microemulsion or middle phase is a thermodynamically stable phase; its occurrence indicates the evidence of ultra-low interfacial tension between the oil and water phases. The presence of a microemulsion phase produces both the most effective mobilization of contaminants and the maximum solubilization of contaminants in the aqueous phase (supersolubilization). Often the microemulsion phase is falsely distinguished from a non-equilibrium macroemulsion phase. The macroemulsion phase is similar to the microemulsion phase, but its appearance changes over time and eventually disappears. In general, the ideal microemulsion system will coalesce in a few minutes (< 10 minutes) and equilibrate in a few hours. A stable macroemulsion system appears opaque and lasts for several days or weeks before completely separating.

These studies were conducted in 15-mL test tubes in which 5 mL of the NAPL and 5 mL of a well-mixed aqueous solution (composed of groundwater, surfactant, and salt) were combined. Three microemulsion studies were conducted. The tubes were mildly shaken by hand and then left at room temperature for at least 24 hours in order to assure equilibrium had been achieved.

The occurrence of a middle-phase microemulsion was verified by visual observation. The surfactant concentrations and salinities are expressed as weight percent in the aqueous phase. Once equilibrium conditions were achieved, visual observation continued for another three to five days to observe any further phase separation of microemulsions and/or any signs of gelation and liquid crystal formation (Shiau et al., 1994; Wu et al., 2000; Baran et al., 1994a; Baran et al., 1994b). Interfacial tension (IFT) measurements were performed in order to determine the condition at which the minimum IFT value was produced which is a characteristic of the optimal condition. The coalescence rate of the middle phase formation was monitored by visual observation for comparison with the IFT results since a surfactant system that has a lower interfacial tension tends to exhibit a higher coalescence rate.

3. Precipitation and Phase Separation Studies

Precipitation and phase separation studies were conducted to determine the tolerance of surfactant systems selected based on the phase behavior studies to the most common divalent cation, calcium (II), in the form of CaCl_2 , found in ground water. Surfactant lost to precipitation is not available for NAPL mobilization and has the potential to interfere with fluid flow. A series of 10-mL surfactant/salt solutions at their optimum point concentration were prepared in groundwater with varying calcium chloride concentrations. The samples were left at room temperature for three days. The presence of precipitate and/or coacervate (surfactant phase separation) was determined visually based on the fact that surfactant crystals can reflect light (Shiau et al., 1995).

4. Soil Sorption Studies

Surfactant lost to the soil matrix due to adsorption is not available for interfacial tension reduction and mobilization of trapped NAPL. Conduction of these studies began with preparation of the site soil by air drying the soil for 5 days followed by oven drying at 250 °C for 2 hours. The oven dried soil was crushed then sieved through a #10 sieve with the soil passing through then passed through a #40 sieve. Soil retained on the #40 sieve was used in these studies and in the column studies described in below. The soil sorption studies were conducted by placing a constant ratio of the prepared site soil to surfactant solution (5 g soil to 15 mL surfactant solution) in 40-mL vials. The surfactant concentration was varied for each of the vials. Each sample was shaken by a motorized shaker for 24 hours. When removed from the shaker the amount of suspended particles indicated the need for centrifugation before analysis of the supernatant surfactant concentration could be attempted. After centrifuging for approximately 1 hour, the supernatant solutions were transparent but colored. Passing each of these through 0.2µm failed to reduce the coloration. A Thermo Scientific Genesys 10S UV-Vis spectrophotometer was used in the attempt to determine the equilibrium surfactant concentrations in order to calculate the adsorption of surfactant onto the soil surface via mass balance calculations with surfactant and soil blanks being analyzed as appropriate.

5. Column Studies

One dimensional column tests were used in this study to simulate one-dimensional flow through the aquifer without attempting to replicate field soil conditions or hydrodynamics. Experience has shown that field-scale heterogeneities cannot be completely captured in lab-scale column tests, so the protocol used in these studies focuses on optimizing for surfactant/soil/NAPL chemical interactions which results in a high correlation between surfactant behavior in the field and in the column tests. Valuable information obtained from the column study include: mobilization/solubilization enhancement under flow-through conditions, potential head loss increase in the media and unfavorable soil/surfactant reactions such as release of fines or generation of ion exchange waves liberating multivalent ions. The procedures for setting up a column are briefly described below.

1. Homogenize the site soil. This step is normally conducted as part of the soil sorption studies, but if additional soil is needed then the process described above is repeated.
2. Estimate the porosity of the sediment to be used in the column by applying the following method:
 - a. Add 10 mL of soil into a 25 mL graduated cylinder
 - b. Add 10 mL of deionized water to the soil column. There will be a layer of excess water on top of the soil. Record the net weight of water added and allow to sit overnight
 - c. Determine pore volume: $\text{Pore volume} = (\text{total net weight of water added}) / \text{water density} - [\text{final volume of the saturated soil and excess water} - \text{initial volume}]$ Water density is treated as 1 g/cm³

- d. Determine porosity: $\text{Porosity} = \text{pore volume of soil column} / \text{volume of soil (10 mL)}$
3. Weigh the empty column (glass liquid chromatography column), including the cap (2.54 cm wide x 15 cm long, Kontes, Vineland, NJ).
4. Tightly pack the site soil in the column to approximate field conditions.

The procedure for the dry packing method used in the column studies was:

- i. Add a small amount of soil (5 – 10 g), which was previously dried and sieved. Then tap the walls of the glass column to minimize the air spaces in the column. Repeat this procedure until the column is filled to the target level with the soil.
- ii. Seal the column properly to avoid any leaks (If soil is not packed tightly enough in the column it will lose uniformity when water is injected into the column, creating bypassing, crevices, or sinks).
- iii. If the above conditions (bypassing, crevices, and sinkholes) are observed, pressure is applied to the flow adaptor plunger to correct the problem. When the flow adaptor plunger is used, the total volume of the packed sediment becomes smaller and the pore volume is changed accordingly.
- iv. Make sure the pressure drop increase is not significant when the flow adaptor plunger is applied. If the pressure drop increase is too large (more than 20 psig), the column is repacked with a smaller amount of sediment or the packing method is changed (wet packing).

Note: In general, if the above mentioned conditions (bypassing, crevices, or sinkholes) are detected, the column is repacked with fresh soil. Therefore, any pressure drop observed during the column tests is not due to a problem with the flow adaptor plunger adjustment.

5. Weigh the column with the packed soil so the actual amount of soil packed in the column can be calculated.

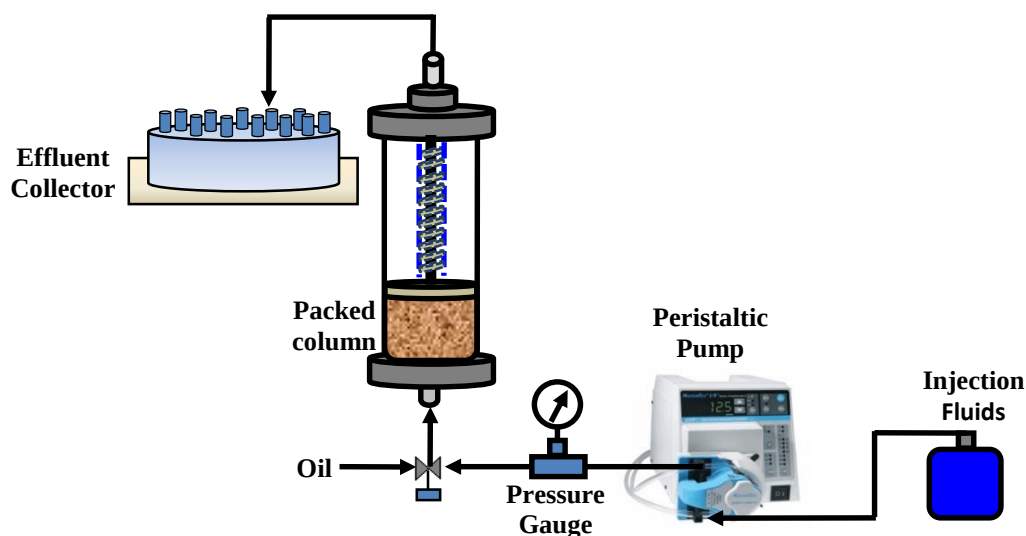


Figure 1. Basic configuration of the equipment used in the column studies

6. Connect the column to a peristaltic pump (Cole-Parmer), and a pressure gauge (D1005PS, Ashcroft) in order to observe any pressure drop increase in the column during the test. Figure 1, shown above, illustrates a basic configuration for the column setup.
7. Set the pump flow rate. A pump flow rate of 0.3 mL/min was used for this study. At least 2 PVs of site ground water were pumped through the soil column until the pressure drop stabilized and no air bubbles are detected at the outlet of the column in order to assure saturation of the soil.
8. Contaminate the column by injecting site NAPL at 20% residual NAPL saturation.
9. Connect the column effluent line to a universal fraction collector (Pharmacia Frac 100) as depicted in Figure 1. Set the fraction collector to turn for every collected pore volume of column effluent based on injection rate and estimated pore volume.
10. Connect the inlet line to the injected fluid (pre-surfactant flush, surfactant mixtures and post-surfactant flush solutions). Estimate the lag time for the fluid to contact the soil in the column.
11. Continue to inject fluid into the column until the targeted number of pore volumes has been injected. The column is then dismantled, and a soil sample is extracted with solvent (pentane) for analysis via gas chromatography (GC) in order to determine the amount of NAPL remaining in the soil. The TPH and DRO concentrations determined from GC analysis (Texas 1005 method) are used as the measure of the amount of NAPL removed.
12. Calculate the percent removal of NAPL from the column based on the values of the NAPL concentrations determined for the extracting solutions using gas chromatography.

Description of Column Tests:

Two column tests were conducted for this study. For each test the TASK surfactant formulation (0.91 wt. % TASK/1.3wt. % NaCl/0.05wt. % CaCl₂) was injected for 1 pore volume. Based on the amount of soil fines which had been noticed during preparation of the soil for testing, it was decided to observe the influence of a post-surfactant flush of a 50% brine solution. Table 1 describes the parameters used for each column test:

Based on the batch test results, the TASK surfactant formulation used in column studies was comprised of 0.91 wt. % TASK/1.3 wt. % NaCl/0.05 wt. % CaCl₂. The brine solution was comprised of 0.65 wt. % NaCl/0.025 wt. % CaCl₂. All solutions were prepared with site ground water.

Table 1. Column test parameters.

Column Test	Pre-surfactant Injection Pore Volume Groundwater	Surfactant Pore Volume Injected	Post-surfactant Injection Pore Volume Brine/Groundwater
1	4.0	1.0	1.0/6.0
2	4.0	1.0	0.0/5.0

Results and Discussion

This section present the results for the following studies: 1. Physical Properties, 2. Phase Behavior, 3. Precipitation and Phase Separation, 4. Soil Sorption, and 5. Column Tests.

1. Physical Properties

Soil, NAPL and groundwater were retrieved from the CTS of Asheville site and shipped to Surbec's laboratory. For the groundwater the total dissolved solids (TDS) and density were determined. The results are shown below in Table 2. The low TDS in the site groundwater used in this study is not atypical and any negative impact on surfactant behavior by the groundwater chemistry is not expected.

Table 2. Groundwater property results

TDS (g/ml)	Density (g/ml)
0.00021	0.9968

The viscosity and density of the site NAPL were determined at room temperature with the results shown in Table 3. The magnitude of the viscosity indicates that there is not an unfavorable viscosity ratio between the NAPL and TASK surfactant, and the use of a polymer to increase the viscosity of the surfactant solution will not be needed at this site.

Table 3. Light non-aqueous phase liquid physical properties

Density (g/mL)	Viscosity (cp)
0.8596	0.2649

2. Phase Behavior Studies and Interfacial Tension Measurement

There were a total of 3 phase behavior studies performed in this treatability study. The TASK surfactant concentrations were 0.91 and 0.94 wt. %. In the first two studies a single electrolyte, sodium chloride, was used. In concentrations ranging from 0.50 – 3.0 wt. %. In the third study calcium chloride was included in each system at 0.05 wt. % while the sodium chloride varied from 0.5 – 3.0 wt. %. All phase behavior systems were observed over a time frame of at least three days after mixing to confirm that the samples were microemulsions rather than macroemulsions. When confirmed, interfacial tensions between the NAPL and aqueous layers were measured.

Scan 1 –TASK Surfactant Concentration: 0.91 wt. %

In the first phase behavior study using a TASK surfactant concentration of 0.91 wt. %, middle phase microemulsions formed at salinities greater than 1.5 wt. % are indicated in Figure 2. The coalescence times for middle phase formation are shown at the top of each vial in Figure 2. The coalescence time is defined as the time required for both interfaces to become well defined. A time of 10 minutes or less is desired for surfactant formulations being considered for potential field application.

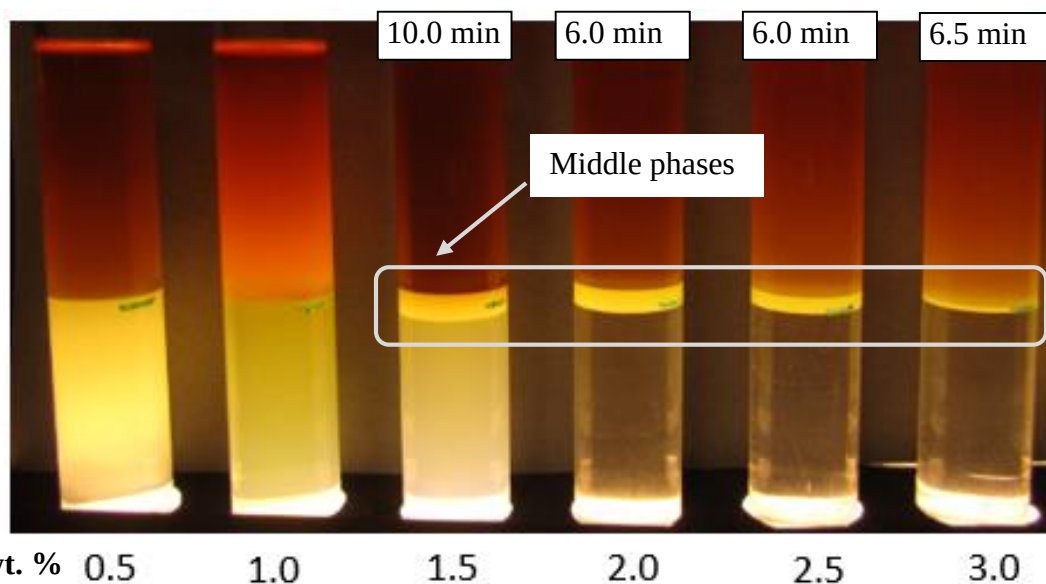


Figure 2. Phase behavior systems consisting of a TASK surfactant concentration of 0.91 wt. % at 24 hours. The coalescence times and salt concentrations are shown.

Scan 2 –TASK Surfactant Concentration: 0.94 wt. %

In the phase behavior study using a total surfactant concentration of 0.94 wt. %, middle phase microemulsions formed for salinities of 2.0 – 3.0 wt. % NaCl as shown in Figure 4.

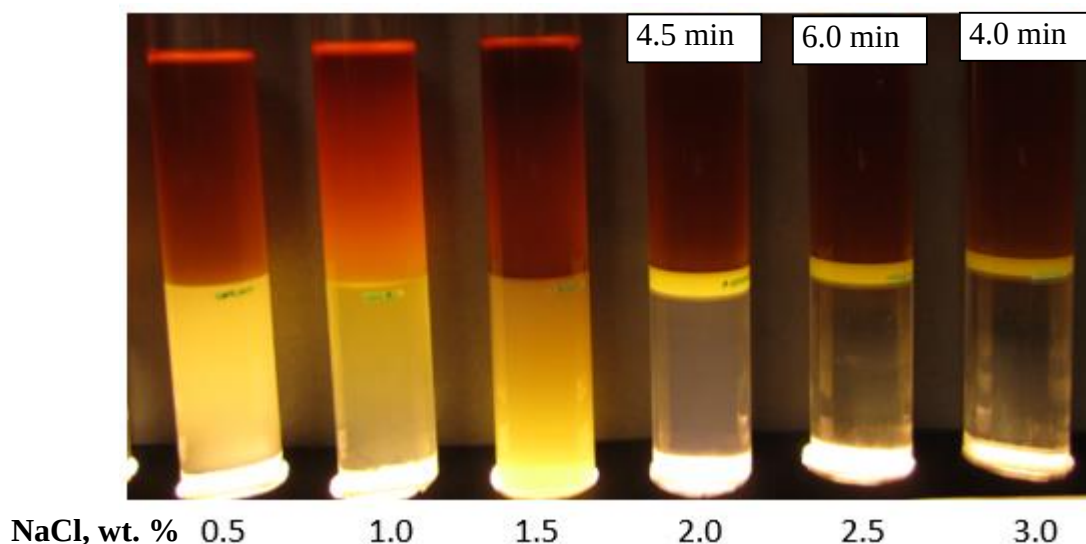


Figure 3. Phase behavior systems consisting of a TASK surfactant concentration of 0.94 wt. % at 24 hours. The coalescence times and salt concentrations are shown.

Scan 3 – TASK Surfactant Concentration: 0.91 wt. %

In the phase behavior study using a TASK surfactant concentration of 0.91 wt. % and 0.05 wt. % CaCl_2 , middle phase microemulsions formed in systems having salinities between 1.0 and 2.5 wt. % as shown in Figure 4.

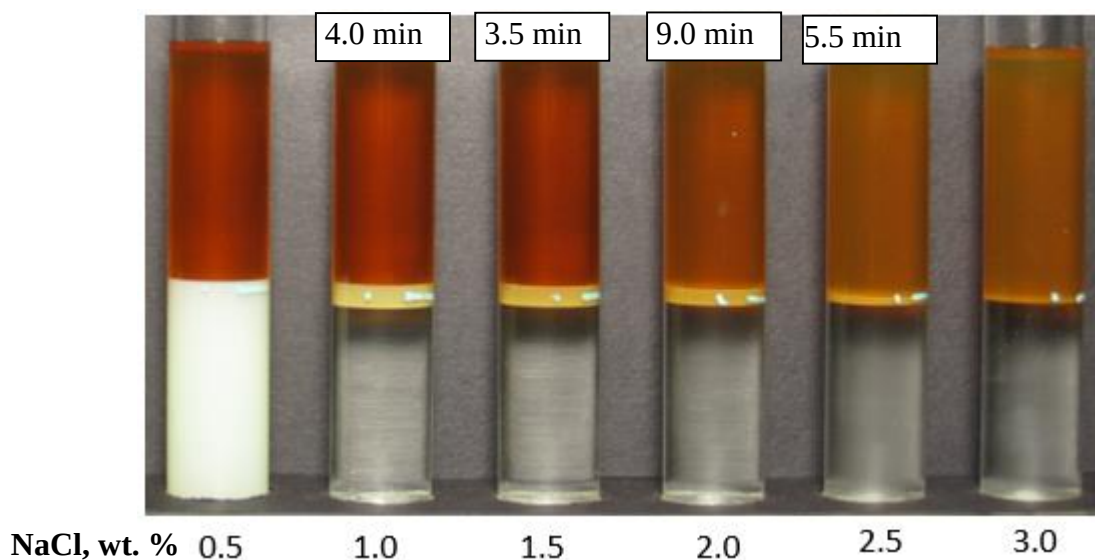


Figure 4. Phase behavior systems consisting of a total surfactant concentration of 0.91 wt. % with 0.05 wt. % CaCl_2 at 24 hours. The coalescence times and salt concentrations are shown.

Interfacial Tension Measurements

When the phase behavior systems had equilibrated, the interfacial tensions between the NAPL and aqueous layers were measured using a spinning drop tensiometer. As shown below in Figure 5, all of the middle phase microemulsions produced ultralow interfacial tensions ($\leq 10^{-2}$ mN/m). This indicates that any of the systems having a coalescence time of less than 10 minutes have the potential effectively remediate the NAPL submitted for this study.

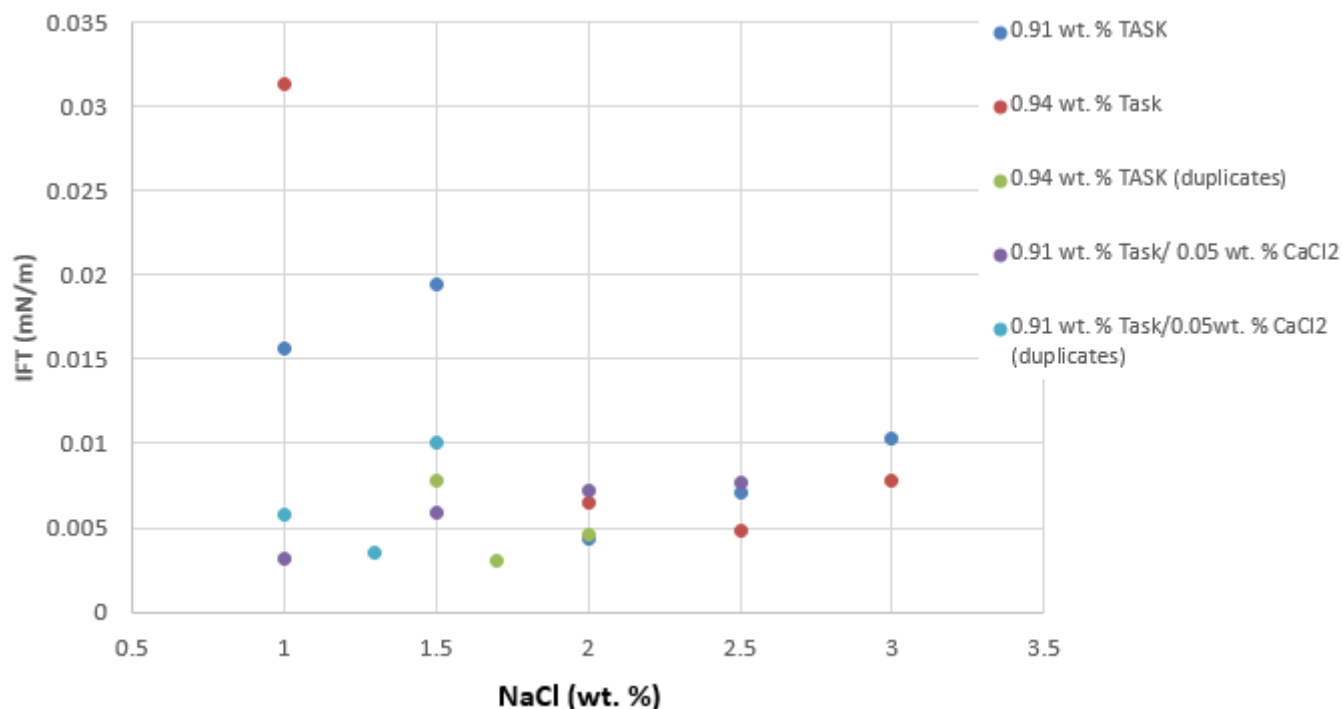


Figure 5. Interfacial tensions for phase behavior systems at equilibrium.

Phase Behavior Summary:

Middle phase microemulsions were formed at both of the surfactant concentrations used in this study. A comparison of the phase behaviors indicates a shift toward higher salinities being required in order to form a middle phase as the surfactant concentration increased from 0.91 to 0.94 wt. %. For the systems containing 0.91 wt. % surfactant, middle phases formed at salinities of 1.5 to 3.0 wt. % for systems containing NaCl only. For the systems containing 0.91 wt. % surfactant and 0.05 wt. % CaCl₂, middle phases formed at salinities of 1.0 to 2.5 wt. %. The salinity range for middle phase formation in the systems containing 0.94 wt. % surfactant was narrower, being 2.0 – 3.0 wt. %. The coalescence times for each of the middle phases formed were equal or less than the desired 10 minutes.

The interfacial tensions between the aqueous and NAPL layers were measured for each middle phase system formed in this study in order to determine, if possible, the optimal salinity. As a reminder, at the optimal salinity the most effective mobilization and maximum solubilization of the contaminant occurs, and it is expected to produce the most effective NAPL recovery in 1-D column tests and, ultimately, in field application. Further, at salt concentrations near the phase boundaries (occurring at salinities just below and above those at which middle phases are produced) there is a decrease in the efficiency of NAPL recovery through the mobilization mechanism because of a higher interfacial tension (IFT), and the less effective solubilization mechanism becomes the dominant NAPL recovery process (Sabatini et al. 2006; Sabatini et al., 1998). For systems containing 0.91 wt. % surfactant/0.0 wt. % CaCl₂, the optimal salinity was 2.0 wt. % with an IFT of 0.0043 mN/m while with the same surfactant concentration and 0.05 wt. % CaCl₂ the optimal salinity was

between 1.0 and 1.3 wt. % with IFTs of 0.0031 and 0.0035 mN/m, respectively. For the 0.94 wt. % surfactant system the optimal salinity was 2.5 with an IFT of 0.0048 mN/m. Note: it is desirable to keep the optimum salinity below 2.0 wt. % in order to avoid a density differential between the NAPL and surfactant formulation which would be sufficient to cause the surfactant to “dive” below the NAPL in the field.

A system formulated with 0.91 wt. % TASK surfactant 1.3 wt. % sodium chloride and 0.05 wt. % calcium chloride was selected since it was the minimum surfactant and salt concentrations at which middle phases would form with coalescence times of less than 10 minutes and in which the excess water phases would be expected to coalesce without any solubilization i.e. at sodium chloride concentrations sufficient to be well within the middle phase region.

3. Precipitation and Phase Separation Studies

When site ground water contains excessive divalent cations such as calcium, some surfactant systems fail to work properly due to the precipitation of anionic surfactants. Therefore, the surfactant system which displayed optimal behavior in the microemulsion phase behavior studies was investigated for precipitation and phase separation. Based on coalescence behavior and IFT value, the formulation composed of 0.91 wt. % total surfactant/1.3 wt. % NaCl and 0.05 wt. % CaCl_2 was selected. Table 4 is a summary of the visual observations made over a 3 day period of the tolerance the selected surfactant formulation (prepared in groundwater) exhibited in the presence of calcium, one of the most common divalent cations found in ground water. As shown there was no precipitation of the surfactant over this time period and phase separation did not occur until the final day of the stability testing and only in the sample containing 1000 ppm calcium chloride.

Table 4. Precipitation and phase separation test for the CTS of Asheville site

CaCl ₂ ppm	Phase Separation			Precipitation		
	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3
100	No	No	No	No	No	No
300	No	No	No	No	No	No
500	No	No	No	No	No	No
700	No	No	No	No	No	No
1000	No	No	Yes	No	No	No

Figures 6 and 7 illustrate the appearance of the solutions as they appeared just after preparation and on the final day of the test, respectively. Based on Surbec’s experience, under normal surfactant injection conditions, any phase separation that occurs long term has minimal impact on the effectiveness of the surfactant solution in remediation efforts. Also, the amounts of Ca^{+2} added in this study give an indication of the surfactant solution stability that can be expected in the case of seasonal variations in groundwater chemistry for this site. The results indicate that this surfactant system has good precipitation and an acceptable phase separation tolerance with the divalent cation used in this study.

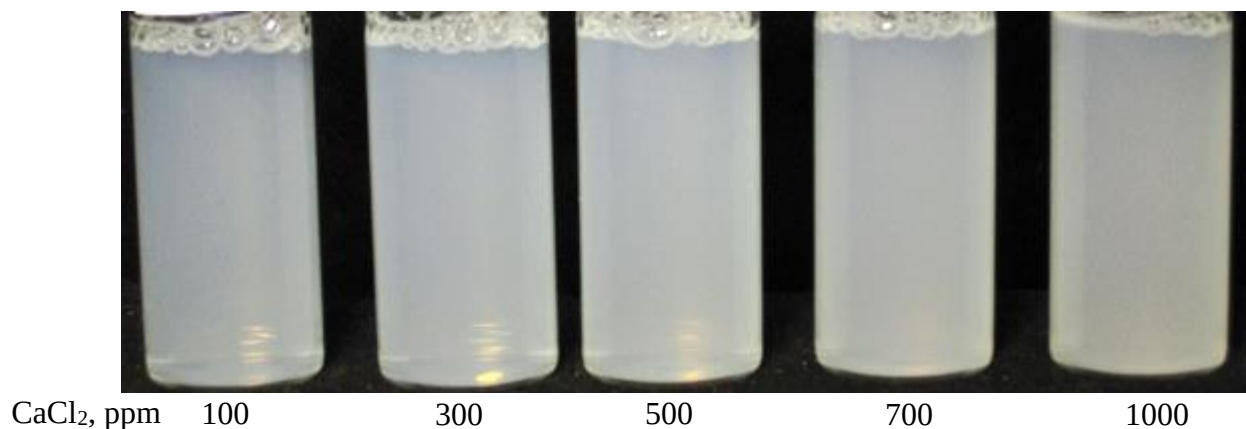


Figure 6. Stability testing vials at time 0.

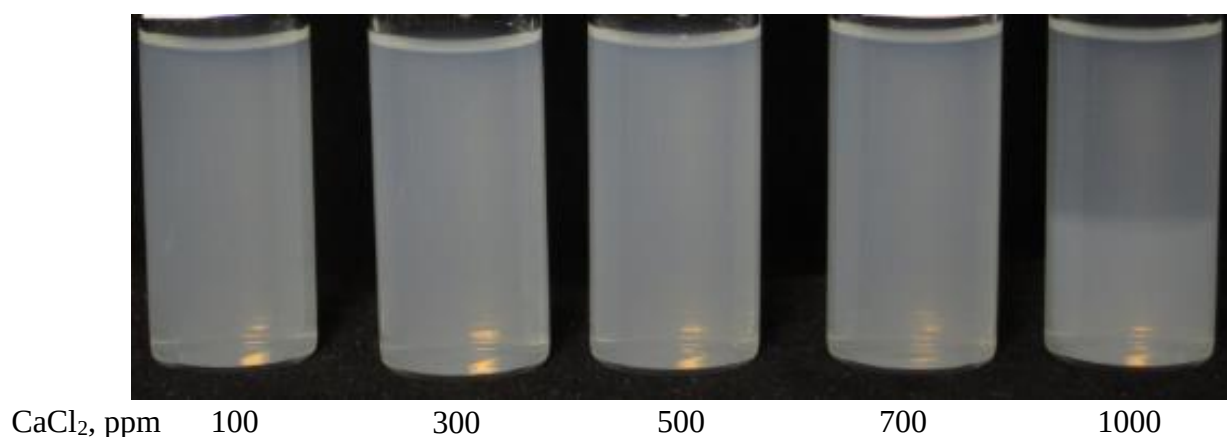


Figure 7. Stability testing vials for at 72 hours with phase separation visible in the 1000 ppm vial.

4. Soil Sorption Study

Adsorption is the phenomenon by which surfactants are electrochemically bonded to the soil matrix and/or stabilizing agents within sediments. These are typically considered surface phenomena and the nature of the bonding may be through electrostatic attraction, van der Waal's forces, or hydrogen bonding. In the case of negligible occurrence of surfactant adsorption, the advective transfer of surfactant can be assumed in subsurface transport. However, in the case where the sediment at the site is fine grained, such as a clay, a significant amount of surfactant can be lost to the soils because of a high affinity for adsorption. Therefore, the occurrence of surfactant retardation due to adsorption must be considered when surfactant is used for a site that has highly adsorbing sediment.

The adsorption study was based on the surfactant formulation consisting of 0.91 wt. % TASK surfactant /1.3 wt. % NaCl/0.05 wt. % CaCl₂. After centrifugation and filtration failed to completely remove the color from the supernatant solutions, it was decided to analyze the solutions to determine if the surfactant concentrations could be calculated. The presence of a contaminant in addition to the TASK surfactant the supernatant which had been suggested by the color present in the solutions was confirmed upon chromatographic analysis. The peak of the unknown interfered with the peak associated with the surfactant thus preventing determination of the

amount of soil sorption UV-Vis methodology. Yet, based on the column results, there was some level of surfactant adsorption, but not significant amount of surfactant losses onto the soil.



Figure 8. Appearance of supernatant solutions after centrifugation and filtration.

5. Column Studies

Column studies allow for the investigation of surfactant-soil interactions, i.e. the surface chemistry of ion exchange and possible dissolution of soil particles and indicate the effectiveness of a surfactant system in the removal of NAPL from a soil column. The results are correlated to several parameters, for example, the amount of surfactant (related to retardation factors), amount of post-surfactant flush (related to the duration of the project) and prevention of colloidal dispersions (related to the injectivity). The TASK surfactant system chosen for the column studies consisted of 0.91 wt. % surfactant/1.3 wt. % NaCl/0.05 wt. % CaCl₂. This formulation was chosen based on the results from the phase behavior studies and was shown to be stable in the presence of excess calcium.

As described previously, the soil samples obtained from the site were dried and sieved. The large particles were retained on a #10 sieve (> 2mm) while the ultrafine particles were allowed to pass through a #40 sieve (< 0.40 mm). The soil retained on the #40 sieve used the column tests described below. Drying and sieving the soil is part of the standard method developed by Surbec personnel for conducting column studies. The uniform soil packing obtained from this method provides reproducible results superior to both wet packing methods and attempts to replicate the in situ soil heterogeneities. The porosity produced by the dried and sieved soil was estimated to be 40%. For all of the column tests the column was packed with the dried soil and saturated with groundwater. Afterwards, 1.0 mL of site NAPL was injected in order to achieve a 20% residual NAPL saturation. The column was pre-flushed (designated as pre-surfactant flush) with groundwater to remove any NAPL that could easily be mobilized until there was no detectable NAPL in the effluent. This was followed with injection of surfactant then a post-surfactant flush of either a brine solution followed with groundwater or groundwater alone until the effluent was fairly clear. Following are the individual results of both column tests followed by a summary of this portion of the treatability study.

Column Test 1

During the conduction of this test the pressure drop steadily decreased from 0.58 to 0.39 psi. One pore volume (PV) of the TASK surfactant formulation was injected during collection of the 5th PV. Mobilized NAPL was observed to begin eluting during the collection of pore volume 7 and continued in pore volume 8. Solubilized NAPL was eluted in pore volumes 7, 8, and 9 as indicated by the opaque solutions in the corresponding vials. All of the effluent vials collected for this test are shown below in Figure 9 with the first vial being the effluent just after the injection of the NAPL onto the soil. The percent recovery of the residual NAPL was calculated to be 84% based on the gas chromatography results. The breakthrough of mobilized oil is usually observed during collection of the pore volume of immediately following the surfactant injection. The delay in mobilized oil elution in this column test indicates some level of surfactant adsorption onto the site soil used.

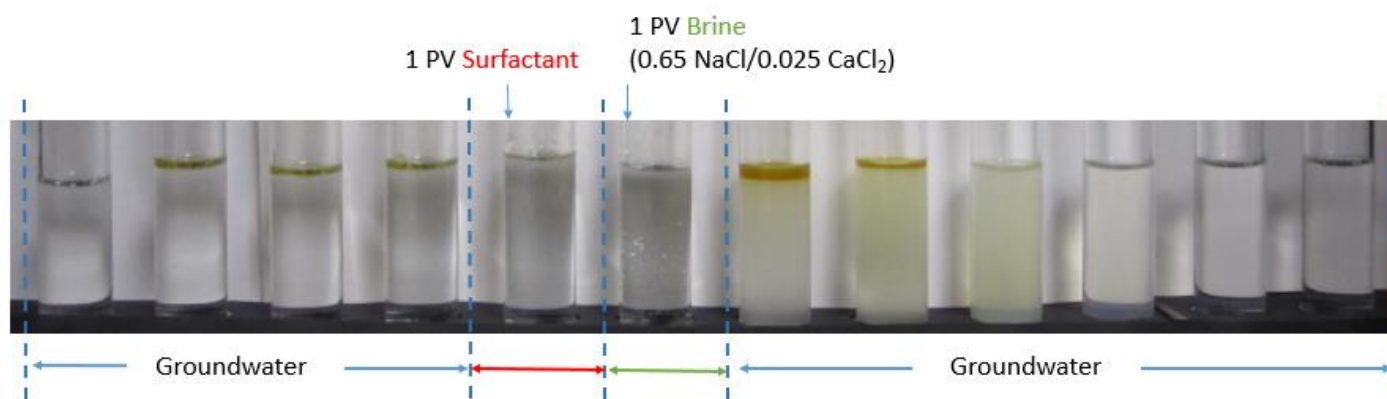


Figure 9. Effluent from column test 1.

Column Test 2

During column test 2 the pressure drop decreased from 0.77 to 0.52 psi. One pore volume of TASK surfactant was injected during the collection of the fifth vial shown in Figure 10. Mobile NAPL was observed eluting during collection of pore volume 7 with solubilized NAPL observed in vials 7-9. The NAPL recovery was determined to be 56%. The unexpected lower NAPL recovery determined for this column test could be due to uneven soil packing which can result in channeling within the soil column, as during the groundwater saturation prior to injection of the NAPL, negligible NAPL was eluted as compared to column test 1.

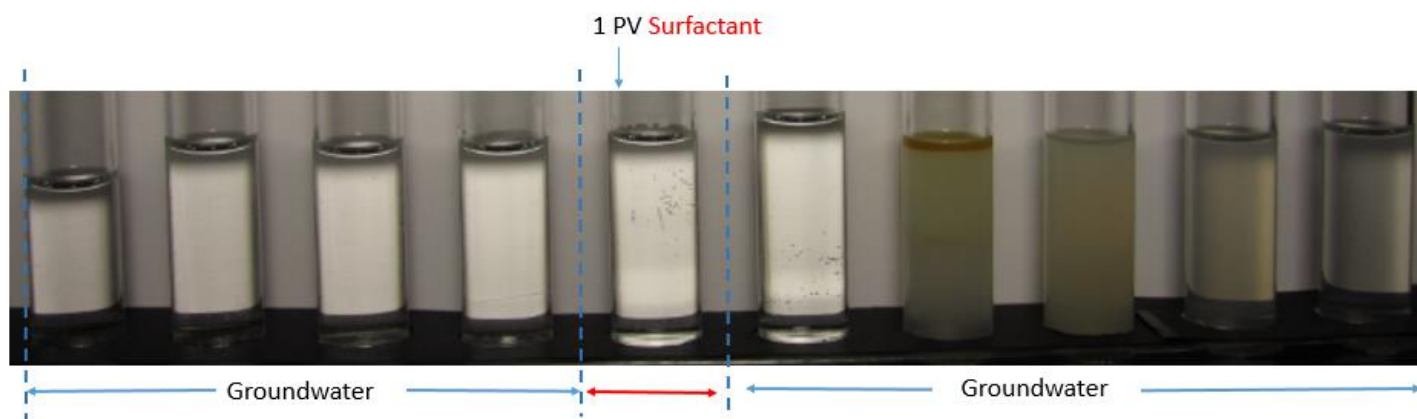


Figure 10. Effluent from column test 2.

Column Tests Summary

There were no unacceptable pressure drop increases across the columns indicating that any migration of soil fines was not sufficient to affect fluid flow through the soil bed. The NAPL was recovered from the soil columns via mobilization and solubilization. Although the percent recoveries were less impressive (84 and 56%), it is likely due to a combination of fine particles within this soil and some level of surfactant adsorption. Thus, Surbec recommends that increase in the amount of surfactant injection from one pore volume to 1.5 or 2 which should further improve the performance of NAPL recovery. The soil used in these column tests was the same as was used in the soil sorption test where it was determined that the presence of unknown contaminants resulted in interference in the surfactant analysis. Yet the presence of this adsorbed contaminant did not significantly impact the interpretation of the result of free product recovery using mobilization mechanism.

Treatability Study Summary

Based on this treatability study, Surbec concluded that:

1. Surbec successfully formulated a TASK surfactant system capable of producing microemulsion systems having ultra-low (10^{-2} mN/m) interfacial tensions between the CTS of Asheville site NAPL and the TASK surfactant formulations prepared with site groundwater.
2. The viscosities of the site NAPL did not affect the ability of the TASK surfactant to mobilize it from site soil.
3. A surfactant systems consisting of 0.91 wt. % TASK surfactant/1.3 wt. % NaCl/0.05 wt. % CaCl₂ in site ground water did not exhibit any potential stability issues.
4. A trace amount of solubilized NAPL was observed in the effluent vials collected from the column tests. This might increase the residence time required for the NAPL/water separation after extraction.
5. The presence of an unknown contaminant prevented an accurate analysis of surfactant adsorption unto the soil.
6. Delay in the appearance of mobilized NAPL is indicative of a relatively high level of surfactant adsorptive losses on the soil, resulting in a somewhat lower than expected level of NAPL recovery. To accommodate the level of adsorption, it is recommended that the amount of surfactant injected be increased from 1 pore volume to 1.5 or 2.0 pore volumes.
7. The ramping down approach of post-surfactant injection (using 50% of salt level for one pore volume) would provide a margin of safety in eliminating potential negative impact of colloidal dispersion at this site.

References

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- Shiau, B.-J.; Sabatini, D.A.; Harwell, J.H., “Solubilization and Microemulsification of Chlorinated Solvents Using Direct Food Additive (Edible) Surfactants,” *Ground Water*, **1994**, 32(4), pp 561-569.
- Wu, B.; Shiau, B-J; Sabatini, D. A.; Harwell, J. H.; Vu D., Q., “Formulating Microemulsion Systems for a Weathered Jet Fuel Waste Using Surfactant/Cosurfactant Mixtures,” *Separation Science and Technology* **2000**, 35(12), pp 1917-1937.
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- Baran, J.R.; Pope, G.A.; Wade, W.H.; Weerasooriya, V.; Yapa, A., “Microemulsion Formation with Chlorinated Hydrocarbons of Differing Polarity,” *Environ. Sci. Technology*, **1994b**, 28(7), pp 1361-1366.
- Shiau, B.-J. In-Situ Surfactant and Chemical Oxidant Flushing for Complete Remediation of Contaminants and Methods of Using Same, U. S. Patent Number: 6,913,419 B2, July 5, 2005.

APPENDIX N

WASTE MANIFEST

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number N0000149956	2. Page 1 of 1	3. Emergency Response Phone 803-957-9175	4. Manifest Tracking Number 013283244 JJK	
5. Generator's Name and Mailing Address C.H. & Company 905 W. Main Street, P.O. Box 100, Elkhart, IN 46516			Generator's Site Address (if different than mailing address) 235 N. Main Street Elkhart, IN			
Generator's Phone: 574-534-0000						
6. Transporter 1 Company Name ABC Environmental Services (SC), LLC			U.S. EPA ID Number SC 0007508531			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address Clean Harbors Elkhart, LLC 500 American Center, Elkhart, IN 46516			U.S. EPA ID Number IN 0007000000			
Facility's Phone: 574-534-1173						
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.
	1.	100 LBS. (45.36 kg) of hazardous waste, liquid, in 1 drum	006	DRUM	330	G
	2.	100 LBS. (45.36 kg) of hazardous waste, solid, in 1 drum	013	DRUM	650	LB
	3.					
	4.					
13. Waste Codes						
14. Special Handling Instructions and Additional Information HAZARDOUS WASTE NO REACTION						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Cory L. Davis			Signature <i>Cory L. Davis</i>		Month Day Year 4 1 15	
TRANSPORTER	16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:					
	17. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name Cory L. Davis			Signature <i>Cory L. Davis</i>		Month Day Year 4 1 15
	Transporter 2 Printed/Typed Name ALEX TAYLOR FOR CLEAN HARBOR			Signature <i>Alex Taylor</i>		Month Day Year 4 7 15
DESIGNATED FACILITY	18. Discrepancy					
	18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection					
	Manifest Reference Number:					
	18b. Alternate Facility (or Generator) U.S. EPA ID Number					
	Facility's Phone:					
	18c. Signature of Alternate Facility (or Generator)					Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
	1. 40	2. 40	3.	4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
	Printed/Typed Name JANE SIMMONS			Signature <i>Jane Simmons</i>		Month Day Year 05 08 15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number NC0003149558	22. Page 2 of	23. Manifest Tracking Number 013283244 JSK		
24. Generator's Name CTS CORP.						
25. Transporter 3 Company Name Clean Harbors Environmental Services Inc		U.S. EPA ID Number MA0039322250				
26. Transporter 4 Company Name Robbie D Wood Inc		U.S. EPA ID Number AL0067138891				
GENERATOR	27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.
			No.	Type		
TRANS ONLY						
32. Special Handling Instructions and Additional Information						
TRANSPORTER	33. Transporter Acknowledgment of Receipt of Materials					
	Printed/Typed Name KYLE ELLIOTT		Signature <i>Kyle Elliott</i>		Month 4	Day 14
DESIGNATED FACILITY	34. Transporter Acknowledgment of Receipt of Materials					
	Printed/Typed Name MICHAEL LANE		Signature <i>Michael Lane</i>		Month 04	Day 23
35. Discrepancy						
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NCD003149556	2. Page 1 of 1	3. Emergency Response Phone 800-255-3924	4. Manifest Tracking Number 013283269 JJK	
5. Generator's Name and Mailing Address CTS CORPORATION 905 WEST BLVD NO., ELKHART, IN 46514 574-523-3300			Generator's Site Address (if different than mailing address) 235 MILLS GAP ROAD SKYLAND, NC			
Generator's Phone:						
6. Transporter 1 Company Name A&D Environmental Services (SC), LLC			U.S. EPA ID Number SC0987598331			
7. Transporter 2 Company Name CLEAN HARBORS ENVIRONMENTAL SERVICES INC			U.S. EPA ID Number MA0 0393 22250			
8. Designated Facility Name and Site Address CLEAN HARBORS - EL DORADO, LLC 305 AMERICAN CIRCLE, EL DORADO, AR 71750 870-863-7173			U.S. EPA ID Number ARD069748152			
Facility's Phone:						
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit WL/Vol.
			No.	Type		
	1.	UN3082, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., (TRICHLOROETHYLENE), 3, PGIII	002	DM	110	G
	2.					
	3.					
4.						
13. Waste Codes D040						
14. Special Handling Instructions and Additional Information EMERGENCY RESPONSE NUMBER 800-255-3924 Contract Number M150007951 PROFILE: CH469693 JOB# 216711						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generators/Offeror's Printed/Typed Name Matthew E. Wallace agent for CTS Corporation			Signature <i>Matthew E. Wallace</i>		Month Day Year 06 23 15	
INTL	16. International Shipments ☐ Import to U.S. ☐ Export from U.S.			Port of entry/exit: _____		
	Transporter signature (for exports only): _____			Date leaving U.S.: _____		
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name Corey L. Dennis			Signature <i>Corey L. Dennis</i>		Month Day Year 6 23 15
DESIGNATED FACILITY	Transporter 2 Printed/Typed Name KENNETH D. BERNARD FOR CLEAN HARBORS			Signature <i>Kenneth D. Bernard</i>		Month Day Year 7 2 15
	18. Discrepancy					
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator) _____ U.S. EPA ID Number _____						
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator) _____						Month Day Year ____
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name _____			Signature _____		Month Day Year ____	