MEMORANDUM

DATE: October 8, 2013

TO: File

FROM: Keith Snavely, Hydrogeologist KS
Inactive Hazardous Sites Branch
Superfund Section

RE: Review of Haught POE System Install and Maintenance Dates
109 Atkinson Street POE
Atkinson Street Contamination, Hamlet NC, NONCD0002867

On July 29, 2011, a Point-of-Entry (POE) filer system was installed by the Inactive Hazardous Sites Branch (Branch) by the Branch's contractor S&ME through Bernard Allen Funding for the water supply well located at the Haught Residence at 109 Atkinson Street in Hamlet. This POE was installed between the water suppy well and the home for the purposes of removing volatile organic compounds (VOCs) from the drinking water. The VOCs detected in groundwater at the Haught's water supply well are 1,1 dichloroethane (1,1- DCA) and 1,1 dichloroethene (1,1-DCE). The first yearly maintenance service check for the Haught's POE system was conducted on 8/24/2012. At that time, the carbon filters were changed as part of routine maintenance. A post maintenance sampling event was performed on the new filters of the POE on 11/14/12. The post maintenance sampling event showed the drinking water to be clean. Groundwater in the influent (or before) the POE filter was found to be contaminated with 1 ug/l of 1,1-DCA and 7.8 ug/l of 1,1 DCE

After the first year, on 5/08/13, (approximately 8 months later) the effluent of the POE system was checked again by sampling and then checked at 12 months (8/24/13). The filters were changed as part of routine maintenance at the end of 12 months. Based on the maintenance records and sampling results there was no breakthrough of contaminants with the carbon filters. Post maintenance sampling was conducted on 9/25/13. The sample results showed the effluent to be clean. Influent contained 1.1 ug/ l of 1,1-DCA and 7.1 ug/l of 1,1 DCE.

Yearly maintenance is planned for 2014.

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1 year Post maintenance sampling results (9/25/13)

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

Report Summary

Monday September 30, 2013

Report Number: L659653
Samples Received: 09/26/13
Client Project: 1054-10-2002

Description: Haught POE Site

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: Tom Mellette , 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/BIO041, 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

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-01

Date Received : September 26, 2013
Description : Haught POE Site

Site ID :

Sample ID : EFFLUENT

Project # : 1054-10-2002

Collected By : J. Waters
Collection Date : 09/25/13 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	09/28/13	1
Acrolein	BDL	50.	ug/l	8260B	09/28/13	1
Acrylonitrile	BDL	10.	ug/l	8260B	09/28/13	1
Benzene	BDL	1.0	ug/l	8260B	09/28/13	1
Bromobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	09/28/13	1
Bromoform	BDL	1.0	ug/l	8260B	09/28/13	1
Bromomethane	BDL	5.0	ug/l	8260B	09/28/13	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	09/28/13	1
Chlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	09/28/13	1
Chloroethane	BDL	5.0	ug/l	8260B	09/28/13	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	09/28/13	1
Chloroform	BDL	5.0	ug/l	8260B	09/28/13	1
Chloromethane	BDL	2.5	ug/l	8260B	09/28/13	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	09/28/13	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	09/28/13	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	09/28/13	1
Dibromomethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	09/28/13	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	09/28/13	1
Ethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	09/28/13	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	09/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-01

Date Received : September 26, 2013
Description : Haught POE Site

Site ID :

Sample ID : EFFLUENT

Project # : 1054-10-2002

Collected By : J. Waters
Collection Date : 09/25/13 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	09/28/13	1
Methylene Chloride	BDL	5.0	ug/l	8260B	09/28/13	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	09/28/13	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	09/28/13	1
Naphthalene	BDL	5.0	ug/l	8260B	09/28/13	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Styrene	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
Toluene	BDL	5.0	ug/l	8260B	09/28/13	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
Trichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	09/28/13	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	09/28/13	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Vinyl chloride	BDL	1.0	ug/l	8260B	09/28/13	1
Xylenes, Total	BDL	3.0	ug/l	8260B	09/28/13	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	09/28/13	1
Dibromofluoromethane	105.		% Rec.	8260B	09/28/13	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/28/13	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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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-02

Site ID :

Project # : 1054-10-2002

Date Received : September 26, 2013
Description : Haught POE Site

Sample ID : INFLUENT

Collected By : J. Waters
Collection Date : 09/25/13 11:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	09/29/13	1
Acrolein	BDL	50.	ug/l	8260B	09/29/13	1
Acrylonitrile	BDL	10.	ug/l	8260B	09/29/13	1
Benzene	BDL	1.0	ug/l	8260B	09/29/13	1
Bromobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	09/29/13	1
Bromoform	BDL	1.0	ug/l	8260B	09/29/13	1
Bromomethane	BDL	5.0	ug/l	8260B	09/29/13	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	09/29/13	1
Chlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	09/29/13	1
Chloroethane	BDL	5.0	ug/l	8260B	09/29/13	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	09/29/13	1
Chloroform	BDL	5.0	ug/l	8260B	09/29/13	1
Chloromethane	BDL	2.5	ug/l	8260B	09/29/13	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	09/29/13	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	09/29/13	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	09/29/13	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	09/29/13	1
Dibromomethane	BDL	1.0	ug/l	8260B	09/29/13	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	09/29/13	1
1,1-Dichloroethane	1.0	1.0	ug/l	8260B	09/29/13	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	09/29/13	1
1,1-Dichloroethene	7.1	1.0	ug/l	8260B	09/29/13	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/29/13	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/29/13	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/29/13	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	09/29/13	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	09/29/13	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/29/13	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/29/13	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/29/13	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	09/29/13	1
Ethylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	09/29/13	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	09/29/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-02

Date Received : September 26, 2013
Description : Haught POE Site

Site ID :

Sample ID : INFLUENT

Project # : 1054-10-2002

Collected By : J. Waters
Collection Date : 09/25/13 11:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	09/29/13	1
Methylene Chloride	BDL	5.0	ug/l	8260B	09/29/13	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	09/29/13	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	09/29/13	1
Naphthalene	BDL	5.0	ug/l	8260B	09/29/13	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Styrene	BDL	1.0	ug/l	8260B	09/29/13	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/29/13	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/29/13	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	09/29/13	1
Toluene	BDL	5.0	ug/l	8260B	09/29/13	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/29/13	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	09/29/13	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	09/29/13	1
Trichloroethene	BDL	1.0	ug/l	8260B	09/29/13	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	09/29/13	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	09/29/13	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/29/13	1
Vinyl chloride	BDL	1.0	ug/l	8260B	09/29/13	1
Xylenes, Total	BDL	3.0	ug/l	8260B	09/29/13	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	09/29/13	1
Dibromofluoromethane	105.		% Rec.	8260B	09/29/13	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/29/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-03

Date Received : September 26, 2013
Description : Haught POE Site

Site ID :

Sample ID : TRIP BLANK

Project # : 1054-10-2002

Collected By : J. Waters
Collection Date : 09/25/13 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	09/28/13	1
Acrolein	BDL	50.	ug/l	8260B	09/28/13	1
Acrylonitrile	BDL	10.	ug/l	8260B	09/28/13	1
Benzene	BDL	1.0	ug/l	8260B	09/28/13	1
Bromobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	09/28/13	1
Bromoform	BDL	1.0	ug/l	8260B	09/28/13	1
Bromomethane	BDL	5.0	ug/l	8260B	09/28/13	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	09/28/13	1
Chlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	09/28/13	1
Chloroethane	BDL	5.0	ug/l	8260B	09/28/13	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	09/28/13	1
Chloroform	BDL	5.0	ug/l	8260B	09/28/13	1
Chloromethane	BDL	2.5	ug/l	8260B	09/28/13	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	09/28/13	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	09/28/13	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	09/28/13	1
Dibromomethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	09/28/13	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	09/28/13	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	09/28/13	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	09/28/13	1
Ethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	09/28/13	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	09/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

September 30,2013

ESC Sample # : L659653-03

Date Received : September 26, 2013
Description : Haught POE Site

Site ID :

Sample ID : TRIP BLANK

Project # : 1054-10-2002

Collected By : J. Waters
Collection Date : 09/25/13 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	09/28/13	1
Methylene Chloride	BDL	5.0	ug/l	8260B	09/28/13	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	09/28/13	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	09/28/13	1
Naphthalene	BDL	5.0	ug/l	8260B	09/28/13	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Styrene	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
Toluene	BDL	5.0	ug/l	8260B	09/28/13	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	09/28/13	1
Trichloroethene	BDL	1.0	ug/l	8260B	09/28/13	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	09/28/13	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	09/28/13	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	09/28/13	1
Vinyl chloride	BDL	1.0	ug/l	8260B	09/28/13	1
Xylenes, Total	BDL	3.0	ug/l	8260B	09/28/13	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	09/28/13	1
Dibromofluoromethane	108.		% Rec.	8260B	09/28/13	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
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Reported: 09/30/13 15:27 Printed: 09/30/13 15:28

Summary of Remarks For Samples Printed
09/30/13 at 15:28:07

TSR Signing Reports: 690
R5 - Desired TAT

Sample: L659653-01 Account: SMERLNC Received: 09/26/13 09:30 Due Date: 10/03/13 00:00 RPT Date: 09/30/13 15:27

Sample: L659653-02 Account: SMERLNC Received: 09/26/13 09:30 Due Date: 10/03/13 00:00 RPT Date: 09/30/13 15:27

Sample: L659653-03 Account: SMERLNC Received: 09/26/13 09:30 Due Date: 10/03/13 00:00 RPT Date: 09/30/13 15:27

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Quality Assurance Report
Level II

L659653

September 30, 2013

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,1,1-Trichloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,1,2-Trichloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,1-Dichloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,1-Dichloroethene	< .001	mg/l			WG684074	09/28/13 17:58
1,1-Dichloropropene	< .001	mg/l			WG684074	09/28/13 17:58
1,2,3-Trichlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,2,3-Trichloropropane	< .001	mg/l			WG684074	09/28/13 17:58
1,2,4-Trichlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,2,4-Trimethylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG684074	09/28/13 17:58
1,2-Dibromoethane	< .001	mg/l			WG684074	09/28/13 17:58
1,2-Dichlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,2-Dichloroethane	< .001	mg/l			WG684074	09/28/13 17:58
1,2-Dichloropropane	< .001	mg/l			WG684074	09/28/13 17:58
1,3,5-Trimethylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,3-Dichlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
1,3-Dichloropropane	< .001	mg/l			WG684074	09/28/13 17:58
1,4-Dichlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
2,2-Dichloropropane	< .001	mg/l			WG684074	09/28/13 17:58
2-Butanone (MEK)	< .01	mg/l			WG684074	09/28/13 17:58
2-Chloroethyl vinyl ether	< .05	mg/l			WG684074	09/28/13 17:58
2-Chlorotoluene	< .001	mg/l			WG684074	09/28/13 17:58
4-Chlorotoluene	< .001	mg/l			WG684074	09/28/13 17:58
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG684074	09/28/13 17:58
Acetone	< .05	mg/l			WG684074	09/28/13 17:58
Acrolein	< .025	mg/l			WG684074	09/28/13 17:58
Acrylonitrile	< .01	mg/l			WG684074	09/28/13 17:58
Benzene	< .001	mg/l			WG684074	09/28/13 17:58
Bromobenzene	< .001	mg/l			WG684074	09/28/13 17:58
Bromodichloromethane	< .001	mg/l			WG684074	09/28/13 17:58
Bromoform	< .001	mg/l			WG684074	09/28/13 17:58
Bromomethane	< .005	mg/l			WG684074	09/28/13 17:58
Carbon tetrachloride	< .001	mg/l			WG684074	09/28/13 17:58
Chlorobenzene	< .001	mg/l			WG684074	09/28/13 17:58
Chlorodibromomethane	< .001	mg/l			WG684074	09/28/13 17:58
Chloroethane	< .005	mg/l			WG684074	09/28/13 17:58
Chloroform	< .005	mg/l			WG684074	09/28/13 17:58
Chloromethane	< .0025	mg/l			WG684074	09/28/13 17:58
cis-1,2-Dichloroethene	< .001	mg/l			WG684074	09/28/13 17:58
cis-1,3-Dichloropropene	< .001	mg/l			WG684074	09/28/13 17:58
Di-isopropyl ether	< .001	mg/l			WG684074	09/28/13 17:58
Dibromomethane	< .001	mg/l			WG684074	09/28/13 17:58
Dichlorodifluoromethane	< .005	mg/l			WG684074	09/28/13 17:58
Ethylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
Hexachloro-1,3-butadiene	< .001	mg/l			WG684074	09/28/13 17:58
Isopropylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
Methyl tert-butyl ether	< .001	mg/l			WG684074	09/28/13 17:58
Methylene Chloride	< .005	mg/l			WG684074	09/28/13 17:58
n-Butylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
n-Propylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
Naphthalene	< .005	mg/l			WG684074	09/28/13 17:58
p-Isopropyltoluene	< .001	mg/l			WG684074	09/28/13 17:58
sec-Butylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
Styrene	< .001	mg/l			WG684074	09/28/13 17:58
tert-Butylbenzene	< .001	mg/l			WG684074	09/28/13 17:58
Tetrachloroethene	< .001	mg/l			WG684074	09/28/13 17:58
Toluene	< .005	mg/l			WG684074	09/28/13 17:58

* 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

L659653

September 30, 2013

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
trans-1,2-Dichloroethene	< .001	mg/l			WG684074	09/28/13 17:58
trans-1,3-Dichloropropene	< .001	mg/l			WG684074	09/28/13 17:58
Trichloroethene	< .001	mg/l			WG684074	09/28/13 17:58
Trichlorofluoromethane	< .005	mg/l			WG684074	09/28/13 17:58
Vinyl chloride	< .001	mg/l			WG684074	09/28/13 17:58
Xylenes, Total	< .003	mg/l			WG684074	09/28/13 17:58
4-Bromofluorobenzene		% Rec.	100.0	71-126	WG684074	09/28/13 17:58
Dibromofluoromethane		% Rec.	105.0	78.3-121	WG684074	09/28/13 17:58
Toluene-d8		% Rec.	100.0	88.5-111	WG684074	09/28/13 17:58

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0248	99.2	74.2-124	WG684074
1,1,1-Trichloroethane	mg/l	.025	0.0258	103.	73.2-123	WG684074
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0256	102.	70.7-122	WG684074
1,1,2-Trichloroethane	mg/l	.025	0.0239	95.5	77.7-118	WG684074
1,1-Dichloroethane	mg/l	.025	0.0263	105.	70.7-126	WG684074
1,1-Dichloroethene	mg/l	.025	0.0258	103.	67.8-129	WG684074
1,1-Dichloropropene	mg/l	.025	0.0252	101.	73.1-125	WG684074
1,2,3-Trichlorobenzene	mg/l	.025	0.0246	98.6	64.9-135	WG684074
1,2,3-Trichloropropane	mg/l	.025	0.0255	102.	71.8-121	WG684074
1,2,4-Trichlorobenzene	mg/l	.025	0.0238	95.2	69.7-136	WG684074
1,2,4-Trimethylbenzene	mg/l	.025	0.0246	98.5	75-123	WG684074
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0247	98.8	65.4-128	WG684074
1,2-Dibromoethane	mg/l	.025	0.0248	99.0	76.6-121	WG684074
1,2-Dichlorobenzene	mg/l	.025	0.0239	95.6	78.4-117	WG684074
1,2-Dichloroethane	mg/l	.025	0.0254	102.	68.8-124	WG684074
1,2-Dichloropropane	mg/l	.025	0.0243	97.0	76.5-119	WG684074
1,3,5-Trimethylbenzene	mg/l	.025	0.0247	98.9	75.6-124	WG684074
1,3-Dichlorobenzene	mg/l	.025	0.0247	98.9	70.8-128	WG684074
1,3-Dichloropropane	mg/l	.025	0.0236	94.2	77.4-117	WG684074
1,4-Dichlorobenzene	mg/l	.025	0.0221	88.2	78.8-115	WG684074
2,2-Dichloropropane	mg/l	.025	0.0264	106.	62.4-133	WG684074
2-Butanone (MEK)	mg/l	.125	0.117	93.7	55-149	WG684074
2-Chloroethyl vinyl ether	mg/l	.125	0.113	90.6	43.8-150	WG684074
2-Chlorotoluene	mg/l	.025	0.0246	98.4	74.7-122	WG684074
4-Chlorotoluene	mg/l	.025	0.0241	96.3	77.5-120	WG684074
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.126	101.	70.5-133	WG684074
Acetone	mg/l	.125	0.124	99.2	35.6-163	WG684074
Acrolein	mg/l	.125	0.127	102.	10-190	WG684074
Acrylonitrile	mg/l	.125	0.129	103.	55.2-130	WG684074
Benzene	mg/l	.025	0.0246	98.2	74.8-121	WG684074
Bromobenzene	mg/l	.025	0.0237	94.9	77.5-116	WG684074
Bromodichloromethane	mg/l	.025	0.0253	101.	75.1-116	WG684074
Bromoform	mg/l	.025	0.0253	101.	67.5-130	WG684074
Bromomethane	mg/l	.025	0.0260	104.	49.9-162	WG684074
Carbon tetrachloride	mg/l	.025	0.0261	104.	70.2-123	WG684074
Chlorobenzene	mg/l	.025	0.0240	96.0	78.1-119	WG684074
Chlorodibromomethane	mg/l	.025	0.0254	102.	74-121	WG684074
Chloroethane	mg/l	.025	0.0233	93.2	61.7-135	WG684074
Chloroform	mg/l	.025	0.0259	104.	76-121	WG684074
Chloromethane	mg/l	.025	0.0239	95.5	61.5-129	WG684074
cis-1,2-Dichloroethene	mg/l	.025	0.0260	104.	76-119	WG684074
cis-1,3-Dichloropropene	mg/l	.025	0.0243	97.1	78.2-120	WG684074
Di-isopropyl ether	mg/l	.025	0.0251	100.	65.6-132	WG684074
Dibromomethane	mg/l	.025	0.0252	101.	79.5-118	WG684074
Dichlorodifluoromethane	mg/l	.025	0.0248	99.0	54.8-135	WG684074
Ethylbenzene	mg/l	.025	0.0251	100.	78.8-122	WG684074

* 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

L659653

September 30, 2013

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Hexachloro-1,3-butadiene	mg/l	.025	0.0247	98.7	64.7-129	WG684074
Isopropylbenzene	mg/l	.025	0.0254	101.	78.6-132	WG684074
Methyl tert-butyl ether	mg/l	.025	0.0261	104.	71.2-126	WG684074
Methylene Chloride	mg/l	.025	0.0248	99.4	70.3-120	WG684074
n-Butylbenzene	mg/l	.025	0.0240	95.8	76.2-126	WG684074
n-Propylbenzene	mg/l	.025	0.0245	97.9	78.2-122	WG684074
Naphthalene	mg/l	.025	0.0252	101.	68.4-128	WG684074
p-Isopropyltoluene	mg/l	.025	0.0258	103.	74-131	WG684074
sec-Butylbenzene	mg/l	.025	0.0253	101.	74.4-127	WG684074
Styrene	mg/l	.025	0.0254	101.	80.4-126	WG684074
tert-Butylbenzene	mg/l	.025	0.0259	103.	75.3-126	WG684074
Tetrachloroethene	mg/l	.025	0.0246	98.5	72.6-126	WG684074
Toluene	mg/l	.025	0.0236	94.5	79.7-116	WG684074
trans-1,2-Dichloroethene	mg/l	.025	0.0255	102.	72.6-121	WG684074
trans-1,3-Dichloropropene	mg/l	.025	0.0247	98.9	74.3-123	WG684074
Trichloroethene	mg/l	.025	0.0256	102.	77.7-118	WG684074
Trichlorofluoromethane	mg/l	.025	0.0247	98.8	63.5-135	WG684074
Vinyl chloride	mg/l	.025	0.0244	97.5	65.9-128	WG684074
Xylenes, Total	mg/l	.075	0.0736	98.1	78.7-121	WG684074
4-Bromofluorobenzene				102.0	71-126	WG684074
Dibromofluoromethane				108.0	78.3-121	WG684074
Toluene-d8				101.0	88.5-111	WG684074

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0262	0.0248	105.	74.2-124	5.58	20	WG684074
1,1,1-Trichloroethane	mg/l	0.0264	0.0258	106.	73.2-123	2.12	20	WG684074
1,1,2,2-Tetrachloroethane	mg/l	0.0265	0.0256	106.	70.7-122	3.68	20	WG684074
1,1,2-Trichloroethane	mg/l	0.0249	0.0239	99.0	77.7-118	4.06	20	WG684074
1,1-Dichloroethane	mg/l	0.0267	0.0263	107.	70.7-126	1.46	20	WG684074
1,1-Dichloroethene	mg/l	0.0263	0.0258	105.	67.8-129	2.01	20	WG684074
1,1-Dichloropropene	mg/l	0.0262	0.0252	105.	73.1-125	3.77	20	WG684074
1,2,3-Trichlorobenzene	mg/l	0.0261	0.0246	104.	64.9-135	5.85	20	WG684074
1,2,3-Trichloropropane	mg/l	0.0260	0.0255	104.	71.8-121	1.97	20	WG684074
1,2,4-Trichlorobenzene	mg/l	0.0262	0.0238	105.	69.7-136	9.57	20	WG684074
1,2,4-Trimethylbenzene	mg/l	0.0257	0.0246	103.	75-123	4.15	20	WG684074
1,2-Dibromo-3-Chloropropane	mg/l	0.0252	0.0247	101.	65.4-128	1.94	20	WG684074
1,2-Dibromoethane	mg/l	0.0263	0.0248	105.	76.6-121	6.10	20	WG684074
1,2-Dichlorobenzene	mg/l	0.0257	0.0239	103.	78.4-117	7.40	20	WG684074
1,2-Dichloroethane	mg/l	0.0262	0.0254	105.	68.8-124	2.80	20	WG684074
1,2-Dichloropropane	mg/l	0.0250	0.0243	100.	76.5-119	3.13	20	WG684074
1,3,5-Trimethylbenzene	mg/l	0.0257	0.0247	103.	75.6-124	3.93	20	WG684074
1,3-Dichlorobenzene	mg/l	0.0259	0.0247	104.	70.8-128	4.66	20	WG684074
1,3-Dichloropropane	mg/l	0.0243	0.0236	97.0	77.4-117	3.06	20	WG684074
1,4-Dichlorobenzene	mg/l	0.0234	0.0221	94.0	78.8-115	6.05	20	WG684074
2,2-Dichloropropane	mg/l	0.0267	0.0264	107.	62.4-133	1.37	20	WG684074
2-Butanone (MEK)	mg/l	0.121	0.117	96.0	55-149	3.02	20	WG684074
2-Chloroethyl vinyl ether	mg/l	0.116	0.113	93.0	43.8-150	2.24	20	WG684074
2-Chlorotoluene	mg/l	0.0260	0.0246	104.	74.7-122	5.61	20	WG684074
4-Chlorotoluene	mg/l	0.0253	0.0241	101.	77.5-120	5.08	20	WG684074
4-Methyl-2-pentanone (MIBK)	mg/l	0.125	0.126	100.	70.5-133	0.640	20	WG684074
Acetone	mg/l	0.127	0.124	101.	35.6-163	2.24	23.9	WG684074
Acrolein	mg/l	0.130	0.127	104.	10-190	2.44	28.1	WG684074
Acrylonitrile	mg/l	0.134	0.129	108.	55.2-130	3.86	20	WG684074
Benzene	mg/l	0.0252	0.0246	101.	74.8-121	2.63	20	WG684074
Bromobenzene	mg/l	0.0247	0.0237	99.0	77.5-116	4.02	20	WG684074
Bromodichloromethane	mg/l	0.0259	0.0253	104.	75.1-116	2.42	20	WG684074
Bromoform	mg/l	0.0263	0.0253	105.	67.5-130	3.73	20	WG684074

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Raleigh, NC 27616

Quality Assurance Report
Level II

L659653

September 30, 2013

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Bromomethane	mg/l	0.0259	0.0260	103.	49.9-162	0.680	20	WG684074
Carbon tetrachloride	mg/l	0.0268	0.0261	107.	70.2-123	2.76	20	WG684074
Chlorobenzene	mg/l	0.0249	0.0240	99.0	78.1-119	3.57	20	WG684074
Chlorodibromomethane	mg/l	0.0265	0.0254	106.	74-121	4.10	20	WG684074
Chloroethane	mg/l	0.0241	0.0233	96.0	61.7-135	3.48	20	WG684074
Chloroform	mg/l	0.0261	0.0259	104.	76-121	0.970	20	WG684074
Chloromethane	mg/l	0.0242	0.0239	97.0	61.5-129	1.50	20	WG684074
cis-1,2-Dichloroethene	mg/l	0.0264	0.0260	106.	76-119	1.46	20	WG684074
cis-1,3-Dichloropropene	mg/l	0.0252	0.0243	101.	78.2-120	3.66	20	WG684074
Di-isopropyl ether	mg/l	0.0259	0.0251	104.	65.6-132	3.05	20	WG684074
Dibromomethane	mg/l	0.0262	0.0252	105.	79.5-118	4.15	20	WG684074
Dichlorodifluoromethane	mg/l	0.0251	0.0248	100.	54.8-135	1.53	20	WG684074
Ethylbenzene	mg/l	0.0257	0.0251	103.	78.8-122	2.28	20	WG684074
Hexachloro-1,3-butadiene	mg/l	0.0270	0.0247	108.	64.7-129	8.81	20	WG684074
Isopropylbenzene	mg/l	0.0263	0.0254	105.	78.6-132	3.70	20	WG684074
Methyl tert-butyl ether	mg/l	0.0262	0.0261	105.	71.2-126	0.230	20	WG684074
Methylene Chloride	mg/l	0.0251	0.0248	100.	70.3-120	0.930	20	WG684074
n-Butylbenzene	mg/l	0.0258	0.0240	103.	76.2-126	7.56	20	WG684074
n-Propylbenzene	mg/l	0.0256	0.0245	102.	78.2-122	4.69	20	WG684074
Naphthalene	mg/l	0.0269	0.0252	108.	68.4-128	6.79	20	WG684074
p-Isopropyltoluene	mg/l	0.0269	0.0258	107.	74-131	4.07	20	WG684074
sec-Butylbenzene	mg/l	0.0266	0.0253	106.	74.4-127	4.81	20	WG684074
Styrene	mg/l	0.0255	0.0254	102.	80.4-126	0.740	20	WG684074
tert-Butylbenzene	mg/l	0.0269	0.0259	108.	75.3-126	3.83	20	WG684074
Tetrachloroethene	mg/l	0.0260	0.0246	104.	72.6-126	5.52	20	WG684074
Toluene	mg/l	0.0244	0.0236	98.0	79.7-116	3.33	20	WG684074
trans-1,2-Dichloroethene	mg/l	0.0263	0.0255	105.	72.6-121	3.17	20	WG684074
trans-1,3-Dichloropropene	mg/l	0.0246	0.0247	98.0	74.3-123	0.400	20	WG684074
Trichloroethene	mg/l	0.0262	0.0256	105.	77.7-118	2.17	20	WG684074
Trichlorofluoromethane	mg/l	0.0254	0.0247	102.	63.5-135	2.72	20	WG684074
Vinyl chloride	mg/l	0.0244	0.0244	97.0	65.9-128	0.0300	20	WG684074
Xylenes, Total	mg/l	0.0759	0.0736	101.	78.7-121	3.16	20	WG684074
4-Bromofluorobenzene				102.0	71-126			WG684074
Dibromofluoromethane				106.0	78.3-121			WG684074
Toluene-d8				101.0	88.5-111			WG684074

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0247	0.0	.025	99.0	64-128	L659539-02	WG684074
1,1,1-Trichloroethane	mg/l	0.0254	0.0	.025	100.	58.7-134	L659539-02	WG684074
1,1,2,2-Tetrachloroethane	mg/l	0.0252	0.0	.025	100.	56-132	L659539-02	WG684074
1,1,2-Trichloroethane	mg/l	0.0233	0.0	.025	93.0	66.3-125	L659539-02	WG684074
1,1-Dichloroethane	mg/l	0.0249	0.0	.025	100.	58.5-132	L659539-02	WG684074
1,1-Dichloroethene	mg/l	0.0246	0.0	.025	98.0	51.1-140	L659539-02	WG684074
1,1-Dichloropropene	mg/l	0.0244	0.0	.025	98.0	57.3-136	L659539-02	WG684074
1,2,3-Trichlorobenzene	mg/l	0.0217	0.0	.025	87.0	59.1-138	L659539-02	WG684074
1,2,3-Trichloropropane	mg/l	0.0240	0.0	.025	96.0	61.4-128	L659539-02	WG684074
1,2,4-Trichlorobenzene	mg/l	0.0224	0.0	.025	90.0	63.6-143	L659539-02	WG684074
1,2,4-Trimethylbenzene	mg/l	0.0243	0.0	.025	97.0	57.4-137	L659539-02	WG684074
1,2-Dibromo-3-Chloropropane	mg/l	0.0210	0.0	.025	84.0	57.3-136	L659539-02	WG684074
1,2-Dibromoethane	mg/l	0.0239	0.0	.025	96.0	67.1-125	L659539-02	WG684074
1,2-Dichlorobenzene	mg/l	0.0219	0.0	.025	88.0	68.2-123	L659539-02	WG684074
1,2-Dichloroethane	mg/l	0.0241	0.0	.025	96.0	60-126	L659539-02	WG684074
1,2-Dichloropropane	mg/l	0.0235	0.0	.025	94.0	64.2-123	L659539-02	WG684074
1,3,5-Trimethylbenzene	mg/l	0.0245	0.0	.025	98.0	63.6-132	L659539-02	WG684074
1,3-Dichlorobenzene	mg/l	0.0247	0.0	.025	99.0	63.1-131	L659539-02	WG684074
1,3-Dichloropropane	mg/l	0.0231	0.0	.025	92.0	67.9-121	L659539-02	WG684074
1,4-Dichlorobenzene	mg/l	0.0203	0.0	.025	81.0	68.6-123	L659539-02	WG684074

* 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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Est. 1970

S&ME Inc. - Raleigh NC
Whit Rawls
3201 Spring Forest Road

Raleigh, NC 27616

Quality Assurance Report
Level II

L659653

September 30, 2013

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
2,2-Dichloropropane	mg/l	0.0255	0.0	.025	100.	50.5-144	L659539-02	WG684074
2-Butanone (MEK)	mg/l	0.0888	0.0	.125	71.0	22.4-138	L659539-02	WG684074
2-Chloroethyl vinyl ether	mg/l	0.000749	0.0	.125	0.600*	10-155	L659539-02	WG684074
2-Chlorotoluene	mg/l	0.0244	0.0	.025	98.0	63.6-128	L659539-02	WG684074
4-Chlorotoluene	mg/l	0.0241	0.0	.025	96.0	65.7-127	L659539-02	WG684074
4-Methyl-2-pentanone (MIBK)	mg/l	0.117	0.0	.125	93.0	60.8-140	L659539-02	WG684074
Acetone	mg/l	0.0743	0.00243	.125	58.0	10-130	L659539-02	WG684074
Acrolein	mg/l	0.319	0.0	.125	260.*	10-200	L659539-02	WG684074
Acrylonitrile	mg/l	0.124	0.0	.125	99.0	49.4-133	L659539-02	WG684074
Benzene	mg/l	0.0237	0.0	.025	95.0	54.3-133	L659539-02	WG684074
Bromobenzene	mg/l	0.0232	0.0	.025	93.0	63.9-124	L659539-02	WG684074
Bromodichloromethane	mg/l	0.0241	0.0	.025	96.0	63.9-121	L659539-02	WG684074
Bromoform	mg/l	0.0242	0.0	.025	97.0	59.5-134	L659539-02	WG684074
Bromomethane	mg/l	0.0235	0.0	.025	94.0	41.7-155	L659539-02	WG684074
Carbon tetrachloride	mg/l	0.0256	0.0	.025	100.	55.7-134	L659539-02	WG684074
Chlorobenzene	mg/l	0.0238	0.0	.025	95.0	67-125	L659539-02	WG684074
Chlorodibromomethane	mg/l	0.0248	0.0	.025	99.0	64.3-125	L659539-02	WG684074
Chloroethane	mg/l	0.0231	0.0	.025	92.0	51.5-136	L659539-02	WG684074
Chloroform	mg/l	0.0246	0.0	.025	98.0	63-129	L659539-02	WG684074
Chloromethane	mg/l	0.0223	0.0	.025	89.0	42.4-135	L659539-02	WG684074
cis-1,2-Dichloroethene	mg/l	0.0249	0.0	.025	100.	59.2-129	L659539-02	WG684074
cis-1,3-Dichloropropene	mg/l	0.0232	0.0	.025	93.0	66.4-125	L659539-02	WG684074
Di-isopropyl ether	mg/l	0.0242	0.0	.025	97.0	56.9-136	L659539-02	WG684074
Dibromomethane	mg/l	0.0241	0.0	.025	96.0	68.2-124	L659539-02	WG684074
Dichlorodifluoromethane	mg/l	0.0233	0.0	.025	93.0	40.6-144	L659539-02	WG684074
Ethylbenzene	mg/l	0.0246	0.0	.025	98.0	61.4-133	L659539-02	WG684074
Hexachloro-1,3-butadiene	mg/l	0.0227	0.0	.025	91.0	55.1-136	L659539-02	WG684074
Isopropylbenzene	mg/l	0.0248	0.0	.025	99.0	66.8-141	L659539-02	WG684074
Methyl tert-butyl ether	mg/l	0.0248	0.0	.025	99.0	57.7-134	L659539-02	WG684074
Methylene Chloride	mg/l	0.0235	0.0	.025	94.0	58.1-122	L659539-02	WG684074
n-Butylbenzene	mg/l	0.0226	0.0	.025	90.0	62.7-140	L659539-02	WG684074
n-Propylbenzene	mg/l	0.0245	0.0	.025	98.0	65.9-131	L659539-02	WG684074
Naphthalene	mg/l	0.0222	0.0	.025	89.0	58-135	L659539-02	WG684074
p-Isopropyltoluene	mg/l	0.0256	0.0	.025	100.	63.2-139	L659539-02	WG684074
sec-Butylbenzene	mg/l	0.0252	0.0	.025	100.	62.2-136	L659539-02	WG684074
Styrene	mg/l	0.0248	0.0	.025	99.0	66.8-133	L659539-02	WG684074
tert-Butylbenzene	mg/l	0.0255	0.0	.025	100.	63.3-134	L659539-02	WG684074
Tetrachloroethene	mg/l	0.0244	0.0	.025	97.0	53-139	L659539-02	WG684074
Toluene	mg/l	0.0227	0.0	.025	91.0	61.4-130	L659539-02	WG684074
trans-1,2-Dichloroethene	mg/l	0.0247	0.0	.025	99.0	56.5-129	L659539-02	WG684074
trans-1,3-Dichloropropene	mg/l	0.0234	0.0	.025	94.0	64.1-128	L659539-02	WG684074
Trichloroethene	mg/l	0.0238	0.0	.025	95.0	44.1-149	L659539-02	WG684074
Trichlorofluoromethane	mg/l	0.0244	0.0	.025	98.0	49.6-145	L659539-02	WG684074
Vinyl chloride	mg/l	0.0228	0.0	.025	91.0	47.8-137	L659539-02	WG684074
Xylenes, Total	mg/l	0.0730	0.0	.075	97.0	63.3-131	L659539-02	WG684074
4-Bromofluorobenzene					105.0	71-126		WG684074
Dibromofluoromethane					108.0	78.3-121		WG684074
Toluene-d8					99.30	88.5-111		WG684074

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0263	0.0247	105.	64-128	6.40	20	L659539-02	WG684074
1,1,1-Trichloroethane	mg/l	0.0272	0.0254	109.	58.7-134	6.93	20	L659539-02	WG684074
1,1,2,2-Tetrachloroethane	mg/l	0.0272	0.0252	109.	56-132	7.62	22.2	L659539-02	WG684074
1,1,2-Trichloroethane	mg/l	0.0251	0.0233	100.	66.3-125	7.14	20	L659539-02	WG684074
1,1-Dichloroethane	mg/l	0.0269	0.0249	107.	58.5-132	7.43	20	L659539-02	WG684074
1,1-Dichloroethene	mg/l	0.0262	0.0246	105.	51.1-140	6.14	20.2	L659539-02	WG684074
1,1-Dichloropropene	mg/l	0.0259	0.0244	104.	57.3-136	6.10	20	L659539-02	WG684074

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Quality Assurance Report
Level II

L659653

September 30, 2013

Analyte	Units	Matrix Spike MSD	Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,3-Trichlorobenzene	mg/l	0.0259	0.0217	104.	59.1-138	17.7	23.7	L659539-02	WG684074
1,2,3-Trichloropropane	mg/l	0.0267	0.0240	107.	61.4-128	10.8	22.4	L659539-02	WG684074
1,2,4-Trichlorobenzene	mg/l	0.0263	0.0224	105.	63.6-143	15.8	21.9	L659539-02	WG684074
1,2,4-Trimethylbenzene	mg/l	0.0258	0.0243	103.	57.4-137	5.95	20	L659539-02	WG684074
1,2-Dibromo-3-Chloropropane	mg/l	0.0262	0.0210	105.	57.3-136	21.9	27	L659539-02	WG684074
1,2-Dibromoethane	mg/l	0.0259	0.0239	103.	67.1-125	7.84	20	L659539-02	WG684074
1,2-Dichlorobenzene	mg/l	0.0255	0.0219	102.	68.2-123	15.1	20	L659539-02	WG684074
1,2-Dichloroethane	mg/l	0.0261	0.0241	104.	60-126	8.16	20	L659539-02	WG684074
1,2-Dichloropropane	mg/l	0.0248	0.0235	99.2	64.2-123	5.32	20	L659539-02	WG684074
1,3,5-Trimethylbenzene	mg/l	0.0261	0.0245	104.	63.6-132	6.37	20.5	L659539-02	WG684074
1,3-Dichlorobenzene	mg/l	0.0267	0.0247	107.	63.1-131	7.78	20	L659539-02	WG684074
1,3-Dichloropropane	mg/l	0.0244	0.0231	97.8	67.9-121	5.73	20	L659539-02	WG684074
1,4-Dichlorobenzene	mg/l	0.0239	0.0203	95.7	68.6-123	16.2	20	L659539-02	WG684074
2,2-Dichloropropane	mg/l	0.0274	0.0255	110.	50.5-144	7.25	21.9	L659539-02	WG684074
2-Butanone (MEK)	mg/l	0.0956	0.0888	76.4	22.4-138	7.36	27	L659539-02	WG684074
2-Chloroethyl vinyl ether	mg/l	0.000471	0.000749	0.377*	10-155	45.5*	20	L659539-02	WG684074
2-Chlorotoluene	mg/l	0.0259	0.0244	103.	63.6-128	5.77	20	L659539-02	WG684074
4-Chlorotoluene	mg/l	0.0255	0.0241	102.	65.7-127	5.44	20	L659539-02	WG684074
4-Methyl-2-pentanone (MIBK)	mg/l	0.125	0.117	100.	60.8-140	7.10	25.1	L659539-02	WG684074
Acetone	mg/l	0.0813	0.0743	63.1	10-130	9.05	27.9	L659539-02	WG684074
Acrolein	mg/l	0.333	0.319	266.*	10-200	4.20	27.7	L659539-02	WG684074
Acrylonitrile	mg/l	0.135	0.124	108.	49.4-133	8.65	25.3	L659539-02	WG684074
Benzene	mg/l	0.0247	0.0237	98.6	54.3-133	3.81	20	L659539-02	WG684074
Bromobenzene	mg/l	0.0248	0.0232	99.2	63.9-124	6.75	20	L659539-02	WG684074
Bromodichloromethane	mg/l	0.0255	0.0241	102.	63.9-121	5.70	20	L659539-02	WG684074
Bromoform	mg/l	0.0261	0.0242	104.	59.5-134	7.22	20.5	L659539-02	WG684074
Bromomethane	mg/l	0.0249	0.0235	99.4	41.7-155	5.78	21.9	L659539-02	WG684074
Carbon tetrachloride	mg/l	0.0268	0.0256	107.	55.7-134	4.41	20	L659539-02	WG684074
Chlorobenzene	mg/l	0.0251	0.0238	100.	67-125	4.96	20	L659539-02	WG684074
Chlorodibromomethane	mg/l	0.0261	0.0248	104.	64.3-125	4.78	20.8	L659539-02	WG684074
Chloroethane	mg/l	0.0243	0.0231	97.3	51.5-136	5.16	40	L659539-02	WG684074
Chloroform	mg/l	0.0266	0.0246	106.	63-129	7.87	20	L659539-02	WG684074
Chloromethane	mg/l	0.0236	0.0223	94.5	42.4-135	5.63	20	L659539-02	WG684074
cis-1,2-Dichloroethene	mg/l	0.0264	0.0249	106.	59.2-129	5.81	20	L659539-02	WG684074
cis-1,3-Dichloropropene	mg/l	0.0249	0.0232	99.8	66.4-125	7.34	20	L659539-02	WG684074
Di-isopropyl ether	mg/l	0.0257	0.0242	103.	56.9-136	5.87	20	L659539-02	WG684074
Dibromomethane	mg/l	0.0255	0.0241	102.	68.2-124	5.77	20	L659539-02	WG684074
Dichlorodifluoromethane	mg/l	0.0245	0.0233	98.0	40.6-144	5.03	20.2	L659539-02	WG684074
Ethylbenzene	mg/l	0.0260	0.0246	104.	61.4-133	5.58	20	L659539-02	WG684074
Hexachloro-1,3-butadiene	mg/l	0.0267	0.0227	107.	55.1-136	16.3	23.6	L659539-02	WG684074
Isopropylbenzene	mg/l	0.0270	0.0248	108.	66.8-141	8.70	20	L659539-02	WG684074
Methyl tert-butyl ether	mg/l	0.0265	0.0248	106.	57.7-134	6.52	20	L659539-02	WG684074
Methylene Chloride	mg/l	0.0245	0.0235	98.1	58.1-122	4.18	20	L659539-02	WG684074
n-Butylbenzene	mg/l	0.0265	0.0226	106.	62.7-140	16.0	20.3	L659539-02	WG684074
n-Propylbenzene	mg/l	0.0259	0.0245	104.	65.9-131	5.69	20	L659539-02	WG684074
Naphthalene	mg/l	0.0266	0.0222	106.	58-135	18.0	25.5	L659539-02	WG684074
p-Isopropyltoluene	mg/l	0.0270	0.0256	108.	63.2-139	5.29	20.4	L659539-02	WG684074
sec-Butylbenzene	mg/l	0.0269	0.0252	108.	62.2-136	6.53	20.3	L659539-02	WG684074
Styrene	mg/l	0.0259	0.0248	104.	66.8-133	4.37	20	L659539-02	WG684074
tert-Butylbenzene	mg/l	0.0270	0.0255	108.	63.3-134	5.90	21	L659539-02	WG684074
Tetrachloroethene	mg/l	0.0260	0.0244	104.	53-139	6.53	20	L659539-02	WG684074
Toluene	mg/l	0.0241	0.0227	96.3	61.4-130	5.71	20	L659539-02	WG684074
trans-1,2-Dichloroethene	mg/l	0.0262	0.0247	105.	56.5-129	5.86	20	L659539-02	WG684074
trans-1,3-Dichloropropene	mg/l	0.0244	0.0234	97.6	64.1-128	4.20	20	L659539-02	WG684074
Trichloroethene	mg/l	0.0258	0.0238	103.	44.1-149	7.83	20	L659539-02	WG684074
Trichlorofluoromethane	mg/l	0.0257	0.0244	103.	49.6-145	5.22	21.2	L659539-02	WG684074
Vinyl chloride	mg/l	0.0246	0.0228	98.5	47.8-137	7.65	20	L659539-02	WG684074
Xylenes, Total	mg/l	0.0774	0.0730	103.	63.3-131	5.76	20	L659539-02	WG684074
4-Bromofluorobenzene				103.0	71-126				WG684074

* 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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S&ME Inc. - Raleigh NC
Whit Rawls
3201 Spring Forest Road

Raleigh, NC 27616

Quality Assurance Report
Level II

L659653

September 30, 2013

Analyte	Units	MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
Dibromofluoromethane				108.0	78.3-121				
Toluene-d8				101.0	88.5-111				

Batch number /Run number / Sample number cross reference

WG684074: R2830921: L659653-01 02 03

* * 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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Whit Rawls
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Raleigh, NC 27616

Quality Assurance Report
Level II

L659653

September 30, 2013

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.

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Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

8-month sampling event results (5/08/13)

Report Summary

Thursday May 16, 2013

Report Number: L635233
Samples Received: 05/10/13
Client Project: 1054-10-2002

Description: Haught POE System Site

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: Tom Mellette , 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/BIO041, 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

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

May 16,2013

ESC Sample # : L635233-01

Date Received : May 10, 2013
Description : Haught POE System Site

Site ID :

Sample ID : EFFLUENT

Project # : 1054-10-2002

Collected By : Amanda Bloom
Collection Date : 05/08/13 12:08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	05/11/13	1
Acrolein	BDL	50.	ug/l	8260B	05/11/13	1
Acrylonitrile	BDL	10.	ug/l	8260B	05/11/13	1
Benzene	BDL	1.0	ug/l	8260B	05/11/13	1
Bromobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	05/11/13	1
Bromoform	BDL	1.0	ug/l	8260B	05/11/13	1
Bromomethane	BDL	5.0	ug/l	8260B	05/11/13	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	05/11/13	1
Chlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	05/11/13	1
Chloroethane	BDL	5.0	ug/l	8260B	05/11/13	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	05/11/13	1
Chloroform	BDL	5.0	ug/l	8260B	05/11/13	1
Chloromethane	BDL	2.5	ug/l	8260B	05/11/13	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	05/11/13	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	05/11/13	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	05/11/13	1
Dibromomethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	05/11/13	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	05/11/13	1
Ethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	05/11/13	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	05/11/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

May 16,2013

ESC Sample # : L635233-01

Date Received : May 10, 2013
Description : Haught POE System Site

Site ID :

Sample ID : EFFLUENT

Project # : 1054-10-2002

Collected By : Amanda Bloom
Collection Date : 05/08/13 12:08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	05/11/13	1
Methylene Chloride	BDL	5.0	ug/l	8260B	05/11/13	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	05/11/13	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	05/11/13	1
Naphthalene	BDL	5.0	ug/l	8260B	05/11/13	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Styrene	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
Toluene	BDL	5.0	ug/l	8260B	05/11/13	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
Trichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	05/11/13	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	05/11/13	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Vinyl chloride	BDL	1.0	ug/l	8260B	05/11/13	1
Xylenes, Total	BDL	3.0	ug/l	8260B	05/11/13	1
Surrogate Recovery						
Toluene-d8	108.		% Rec.	8260B	05/11/13	1
Dibromofluoromethane	99.0		% Rec.	8260B	05/11/13	1
4-Bromofluorobenzene	109.		% Rec.	8260B	05/11/13	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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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

May 16,2013

ESC Sample # : L635233-02

Date Received : May 10, 2013
Description : Haught POE System Site

Site ID :

Sample ID : INFLUENT

Project # : 1054-10-2002

Collected By : Amanda Bloom
Collection Date : 05/08/13 12:07

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	05/11/13	1
Acrolein	BDL	50.	ug/l	8260B	05/11/13	1
Acrylonitrile	BDL	10.	ug/l	8260B	05/11/13	1
Benzene	BDL	1.0	ug/l	8260B	05/11/13	1
Bromobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	05/11/13	1
Bromoform	BDL	1.0	ug/l	8260B	05/11/13	1
Bromomethane	BDL	5.0	ug/l	8260B	05/11/13	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	05/11/13	1
Chlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	05/11/13	1
Chloroethane	BDL	5.0	ug/l	8260B	05/11/13	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	05/11/13	1
Chloroform	BDL	5.0	ug/l	8260B	05/11/13	1
Chloromethane	BDL	2.5	ug/l	8260B	05/11/13	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	05/11/13	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	05/11/13	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	05/11/13	1
Dibromomethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	05/11/13	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1-Dichloroethene	5.0	1.0	ug/l	8260B	05/11/13	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	05/11/13	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	05/11/13	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	05/11/13	1
Ethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	05/11/13	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	05/11/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Whit Rawls
S&ME Inc. - Raleigh NC
3201 Spring Forest Road
Raleigh, NC 27616

May 16,2013

ESC Sample # : L635233-02

Date Received : May 10, 2013
Description : Haught POE System Site

Site ID :

Sample ID : INFLUENT

Project # : 1054-10-2002

Collected By : Amanda Bloom
Collection Date : 05/08/13 12:07

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
2-Butanone (MEK)	BDL	10.	ug/l	8260B	05/11/13	1
Methylene Chloride	BDL	5.0	ug/l	8260B	05/11/13	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	05/11/13	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	05/11/13	1
Naphthalene	BDL	5.0	ug/l	8260B	05/11/13	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Styrene	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
Toluene	BDL	5.0	ug/l	8260B	05/11/13	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	05/11/13	1
Trichloroethene	BDL	1.0	ug/l	8260B	05/11/13	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	05/11/13	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	05/11/13	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	05/11/13	1
Vinyl chloride	BDL	1.0	ug/l	8260B	05/11/13	1
Xylenes, Total	BDL	3.0	ug/l	8260B	05/11/13	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	05/11/13	1
Dibromofluoromethane	99.5		% Rec.	8260B	05/11/13	1
4-Bromofluorobenzene	108.		% Rec.	8260B	05/11/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 05/16/13 09:28 Printed: 05/16/13 09:28

Summary of Remarks For Samples Printed
05/16/13 at 09:28:57

TSR Signing Reports: 690
R5 - Desired TAT

Sample: L635233-01 Account: SMERLNC Received: 05/10/13 09:30 Due Date: 05/17/13 00:00 RPT Date: 05/16/13 09:28

Sample: L635233-02 Account: SMERLNC Received: 05/10/13 09:30 Due Date: 05/17/13 00:00 RPT Date: 05/16/13 09:28

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S&ME Inc. - Raleigh NC
Whit Rawls
3201 Spring Forest Road

Raleigh, NC 27616

Quality Assurance Report
Level II

L635233

May 16, 2013

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,1,1-Trichloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,1,2-Trichloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,1-Dichloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,1-Dichloroethene	< .001	mg/l			WG660770	05/11/13 03:31
1,1-Dichloropropene	< .001	mg/l			WG660770	05/11/13 03:31
1,2,3-Trichlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,2,3-Trichloropropane	< .001	mg/l			WG660770	05/11/13 03:31
1,2,4-Trichlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,2,4-Trimethylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG660770	05/11/13 03:31
1,2-Dibromoethane	< .001	mg/l			WG660770	05/11/13 03:31
1,2-Dichlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,2-Dichloroethane	< .001	mg/l			WG660770	05/11/13 03:31
1,2-Dichloropropane	< .001	mg/l			WG660770	05/11/13 03:31
1,3,5-Trimethylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,3-Dichlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
1,3-Dichloropropane	< .001	mg/l			WG660770	05/11/13 03:31
1,4-Dichlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
2,2-Dichloropropane	< .001	mg/l			WG660770	05/11/13 03:31
2-Butanone (MEK)	< .01	mg/l			WG660770	05/11/13 03:31
2-Chloroethyl vinyl ether	< .05	mg/l			WG660770	05/11/13 03:31
2-Chlorotoluene	< .001	mg/l			WG660770	05/11/13 03:31
4-Chlorotoluene	< .001	mg/l			WG660770	05/11/13 03:31
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG660770	05/11/13 03:31
Acetone	< .05	mg/l			WG660770	05/11/13 03:31
Acrolein	< .025	mg/l			WG660770	05/11/13 03:31
Acrylonitrile	< .01	mg/l			WG660770	05/11/13 03:31
Benzene	< .001	mg/l			WG660770	05/11/13 03:31
Bromobenzene	< .001	mg/l			WG660770	05/11/13 03:31
Bromodichloromethane	< .001	mg/l			WG660770	05/11/13 03:31
Bromoform	< .001	mg/l			WG660770	05/11/13 03:31
Bromomethane	< .005	mg/l			WG660770	05/11/13 03:31
Carbon tetrachloride	< .001	mg/l			WG660770	05/11/13 03:31
Chlorobenzene	< .001	mg/l			WG660770	05/11/13 03:31
Chlorodibromomethane	< .001	mg/l			WG660770	05/11/13 03:31
Chloroethane	< .005	mg/l			WG660770	05/11/13 03:31
Chloroform	< .005	mg/l			WG660770	05/11/13 03:31
Chloromethane	< .0025	mg/l			WG660770	05/11/13 03:31
cis-1,2-Dichloroethene	< .001	mg/l			WG660770	05/11/13 03:31
cis-1,3-Dichloropropene	< .001	mg/l			WG660770	05/11/13 03:31
Di-isopropyl ether	< .001	mg/l			WG660770	05/11/13 03:31
Dibromomethane	< .001	mg/l			WG660770	05/11/13 03:31
Dichlorodifluoromethane	< .005	mg/l			WG660770	05/11/13 03:31
Ethylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
Hexachloro-1,3-butadiene	< .001	mg/l			WG660770	05/11/13 03:31
Isopropylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
Methyl tert-butyl ether	< .001	mg/l			WG660770	05/11/13 03:31
Methylene Chloride	< .005	mg/l			WG660770	05/11/13 03:31
n-Butylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
n-Propylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
Naphthalene	< .005	mg/l			WG660770	05/11/13 03:31
p-Isopropyltoluene	< .001	mg/l			WG660770	05/11/13 03:31
sec-Butylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
Styrene	< .001	mg/l			WG660770	05/11/13 03:31
tert-Butylbenzene	< .001	mg/l			WG660770	05/11/13 03:31
Tetrachloroethene	< .001	mg/l			WG660770	05/11/13 03:31
Toluene	< .005	mg/l			WG660770	05/11/13 03:31

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Est. 1970

S&ME Inc. - Raleigh NC
Whit Rawls
3201 Spring Forest Road

Raleigh, NC 27616

Quality Assurance Report
Level II

L635233

May 16, 2013

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
trans-1,2-Dichloroethene	< .001	mg/l			WG660770	05/11/13 03:31
trans-1,3-Dichloropropene	< .001	mg/l			WG660770	05/11/13 03:31
Trichloroethene	< .001	mg/l			WG660770	05/11/13 03:31
Trichlorofluoromethane	< .005	mg/l			WG660770	05/11/13 03:31
Vinyl chloride	< .001	mg/l			WG660770	05/11/13 03:31
Xylenes, Total	< .003	mg/l			WG660770	05/11/13 03:31
4-Bromofluorobenzene		% Rec.	103.3	82-120	WG660770	05/11/13 03:31
Dibromofluoromethane		% Rec.	98.39	82-126	WG660770	05/11/13 03:31
Toluene-d8		% Rec.	105.2	92-112	WG660770	05/11/13 03:31

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0260	104.	77-128	WG660770
1,1,1-Trichloroethane	mg/l	.025	0.0262	105.	71-126	WG660770
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0219	87.5	78-130	WG660770
1,1,2-Trichloroethane	mg/l	.025	0.0224	89.6	81-121	WG660770
1,1-Dichloroethane	mg/l	.025	0.0228	91.3	73-123	WG660770
1,1-Dichloroethene	mg/l	.025	0.0231	92.3	54-134	WG660770
1,1-Dichloropropene	mg/l	.025	0.0239	95.5	67-127	WG660770
1,2,3-Trichlorobenzene	mg/l	.025	0.0254	102.	77-130	WG660770
1,2,3-Trichloropropane	mg/l	.025	0.0227	90.8	68-130	WG660770
1,2,4-Trichlorobenzene	mg/l	.025	0.0269	108.	76-127	WG660770
1,2,4-Trimethylbenzene	mg/l	.025	0.0263	105.	77-129	WG660770
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0203	81.3	55-142	WG660770
1,2-Dibromoethane	mg/l	.025	0.0239	95.5	78-124	WG660770
1,2-Dichlorobenzene	mg/l	.025	0.0240	96.2	82-121	WG660770
1,2-Dichloroethane	mg/l	.025	0.0229	91.8	69-128	WG660770
1,2-Dichloropropane	mg/l	.025	0.0230	92.0	77-121	WG660770
1,3,5-Trimethylbenzene	mg/l	.025	0.0261	105.	78-127	WG660770
1,3-Dichlorobenzene	mg/l	.025	0.0266	106.	77-127	WG660770
1,3-Dichloropropane	mg/l	.025	0.0224	89.6	78-117	WG660770
1,4-Dichlorobenzene	mg/l	.025	0.0243	97.1	79-117	WG660770
2,2-Dichloropropane	mg/l	.025	0.0286	114.	63-130	WG660770
2-Butanone (MEK)	mg/l	.125	0.104	83.2	58-144	WG660770
2-Chloroethyl vinyl ether	mg/l	.125	0.110	88.2	26-172	WG660770
2-Chlorotoluene	mg/l	.025	0.0219	87.6	78-123	WG660770
4-Chlorotoluene	mg/l	.025	0.0258	103.	78-122	WG660770
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.113	90.4	58-147	WG660770
Acetone	mg/l	.125	0.0838	67.1	49-153	WG660770
Acrolein	mg/l	.125	0.0905	72.4	10-181	WG660770
Acrylonitrile	mg/l	.125	0.0831	66.5	53-153	WG660770
Benzene	mg/l	.025	0.0221	88.2	72-119	WG660770
Bromobenzene	mg/l	.025	0.0249	99.4	76-121	WG660770
Bromodichloromethane	mg/l	.025	0.0237	94.9	75-127	WG660770
Bromoform	mg/l	.025	0.0235	94.2	61-136	WG660770
Bromomethane	mg/l	.025	0.0223	89.3	42-172	WG660770
Carbon tetrachloride	mg/l	.025	0.0257	103.	63-129	WG660770
Chlorobenzene	mg/l	.025	0.0242	96.7	78-123	WG660770
Chlorodibromomethane	mg/l	.025	0.0247	98.6	73-128	WG660770
Chloroethane	mg/l	.025	0.0221	88.6	52-164	WG660770
Chloroform	mg/l	.025	0.0245	97.9	76-122	WG660770
Chloromethane	mg/l	.025	0.0257	103.	50-141	WG660770
cis-1,2-Dichloroethene	mg/l	.025	0.0225	89.9	75-121	WG660770
cis-1,3-Dichloropropene	mg/l	.025	0.0242	96.7	74-124	WG660770
Di-isopropyl ether	mg/l	.025	0.0224	89.7	66-129	WG660770
Dibromomethane	mg/l	.025	0.0244	97.4	77-124	WG660770
Dichlorodifluoromethane	mg/l	.025	0.0314	126.	33-173	WG660770
Ethylbenzene	mg/l	.025	0.0255	102.	77-124	WG660770

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Quality Assurance Report
Level II

L635233

May 16, 2013

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Hexachloro-1,3-butadiene	mg/l	.025	0.0275	110.	71-134	WG660770
Isopropylbenzene	mg/l	.025	0.0285	114.	74-126	WG660770
Methyl tert-butyl ether	mg/l	.025	0.0232	92.7	67-127	WG660770
Methylene Chloride	mg/l	.025	0.0208	83.4	67-122	WG660770
n-Butylbenzene	mg/l	.025	0.0249	99.6	74-130	WG660770
n-Propylbenzene	mg/l	.025	0.0260	104.	77-125	WG660770
Naphthalene	mg/l	.025	0.0231	92.5	70-134	WG660770
p-Isopropyltoluene	mg/l	.025	0.0274	110.	77-132	WG660770
sec-Butylbenzene	mg/l	.025	0.0263	105.	77-130	WG660770
Styrene	mg/l	.025	0.0265	106.	69-145	WG660770
tert-Butylbenzene	mg/l	.025	0.0266	106.	76-131	WG660770
Tetrachloroethene	mg/l	.025	0.0259	104.	69-131	WG660770
Toluene	mg/l	.025	0.0231	92.6	75-114	WG660770
trans-1,2-Dichloroethene	mg/l	.025	0.0220	87.9	63-127	WG660770
trans-1,3-Dichloropropene	mg/l	.025	0.0234	93.6	69-124	WG660770
Trichloroethene	mg/l	.025	0.0236	94.2	69-131	WG660770
Trichlorofluoromethane	mg/l	.025	0.0252	101.	53-161	WG660770
Vinyl chloride	mg/l	.025	0.0254	101.	55-142	WG660770
Xylenes, Total	mg/l	.075	0.0753	100.	77-123	WG660770
4-Bromofluorobenzene				109.2	82-120	WG660770
Dibromofluoromethane				98.20	82-126	WG660770
Toluene-d8				106.4	92-112	WG660770

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0255	0.0260	102.	77-128	2.10	20	WG660770
1,1,1-Trichloroethane	mg/l	0.0255	0.0262	102.	71-126	2.57	20	WG660770
1,1,2,2-Tetrachloroethane	mg/l	0.0234	0.0219	93.0	78-130	6.57	20	WG660770
1,1,2-Trichloroethane	mg/l	0.0233	0.0224	93.0	81-121	4.15	20	WG660770
1,1-Dichloroethane	mg/l	0.0218	0.0228	87.0	73-123	4.75	20	WG660770
1,1-Dichloroethene	mg/l	0.0225	0.0231	90.0	54-134	2.52	20	WG660770
1,1-Dichloropropene	mg/l	0.0228	0.0239	91.0	67-127	4.58	20	WG660770
1,2,3-Trichlorobenzene	mg/l	0.0250	0.0254	100.	77-130	1.53	20	WG660770
1,2,3-Trichloropropane	mg/l	0.0227	0.0227	91.0	68-130	0.0400	20	WG660770
1,2,4-Trichlorobenzene	mg/l	0.0266	0.0269	106.	76-127	1.28	20	WG660770
1,2,4-Trimethylbenzene	mg/l	0.0258	0.0263	103.	77-129	1.65	20	WG660770
1,2-Dibromo-3-Chloropropane	mg/l	0.0224	0.0203	90.0	55-142	9.97	20	WG660770
1,2-Dibromoethane	mg/l	0.0242	0.0239	97.0	78-124	1.53	20	WG660770
1,2-Dichlorobenzene	mg/l	0.0240	0.0240	96.0	82-121	0.260	20	WG660770
1,2-Dichloroethane	mg/l	0.0222	0.0229	89.0	69-128	3.32	20	WG660770
1,2-Dichloropropane	mg/l	0.0226	0.0230	90.0	77-121	1.74	20	WG660770
1,3,5-Trimethylbenzene	mg/l	0.0260	0.0261	104.	78-127	0.710	20	WG660770
1,3-Dichlorobenzene	mg/l	0.0259	0.0266	104.	77-127	2.43	20	WG660770
1,3-Dichloropropane	mg/l	0.0233	0.0224	93.0	78-117	3.89	20	WG660770
1,4-Dichlorobenzene	mg/l	0.0236	0.0243	94.0	79-117	2.73	20	WG660770
2,2-Dichloropropane	mg/l	0.0283	0.0286	113.	63-130	1.19	20	WG660770
2-Butanone (MEK)	mg/l	0.102	0.104	82.0	58-144	1.86	20	WG660770
2-Chloroethyl vinyl ether	mg/l	0.111	0.110	89.0	26-172	1.01	22	WG660770
2-Chlorotoluene	mg/l	0.0211	0.0219	84.0	78-123	3.64	20	WG660770
4-Chlorotoluene	mg/l	0.0255	0.0258	102.	78-122	1.17	20	WG660770
4-Methyl-2-pentanone (MIBK)	mg/l	0.113	0.113	90.0	58-147	0.120	20	WG660770
Acetone	mg/l	0.0804	0.0838	64.0	49-153	4.16	21	WG660770
Acrolein	mg/l	0.0859	0.0905	69.0	10-181	5.25	30	WG660770
Acrylonitrile	mg/l	0.0768	0.0831	61.0	53-153	7.85	20	WG660770
Benzene	mg/l	0.0212	0.0221	85.0	72-119	3.84	20	WG660770
Bromobenzene	mg/l	0.0244	0.0249	97.0	76-121	2.04	20	WG660770
Bromodichloromethane	mg/l	0.0237	0.0237	95.0	75-127	0.230	20	WG660770
Bromoform	mg/l	0.0247	0.0235	99.0	61-136	4.76	20	WG660770

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Quality Assurance Report
Level II

L635233

May 16, 2013

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Bromomethane	mg/l	0.0224	0.0223	90.0	42-172	0.280	20	WG660770
Carbon tetrachloride	mg/l	0.0247	0.0257	99.0	63-129	4.18	20	WG660770
Chlorobenzene	mg/l	0.0241	0.0242	96.0	78-123	0.270	20	WG660770
Chlorodibromomethane	mg/l	0.0248	0.0247	99.0	73-128	0.620	20	WG660770
Chloroethane	mg/l	0.0215	0.0221	86.0	52-164	3.10	20	WG660770
Chloroform	mg/l	0.0230	0.0245	92.0	76-122	6.42	20	WG660770
Chloromethane	mg/l	0.0250	0.0257	100.	50-141	2.75	20	WG660770
cis-1,2-Dichloroethene	mg/l	0.0216	0.0225	86.0	75-121	3.95	20	WG660770
cis-1,3-Dichloropropene	mg/l	0.0241	0.0242	96.0	74-124	0.410	20	WG660770
Di-isopropyl ether	mg/l	0.0215	0.0224	86.0	66-129	4.25	20	WG660770
Dibromomethane	mg/l	0.0240	0.0244	96.0	77-124	1.45	20	WG660770
Dichlorodifluoromethane	mg/l	0.0302	0.0314	121.	33-173	3.99	20	WG660770
Ethylbenzene	mg/l	0.0253	0.0255	101.	77-124	0.910	20	WG660770
Hexachloro-1,3-butadiene	mg/l	0.0261	0.0275	104.	71-134	5.20	20	WG660770
Isopropylbenzene	mg/l	0.0285	0.0285	114.	74-126	0.0600	20	WG660770
Methyl tert-butyl ether	mg/l	0.0224	0.0232	90.0	67-127	3.31	20	WG660770
Methylene Chloride	mg/l	0.0195	0.0208	78.0	67-122	6.81	20	WG660770
n-Butylbenzene	mg/l	0.0245	0.0249	98.0	74-130	1.62	20	WG660770
n-Propylbenzene	mg/l	0.0259	0.0260	103.	77-125	0.490	20	WG660770
Naphthalene	mg/l	0.0230	0.0231	92.0	70-134	0.620	20	WG660770
p-Isopropyltoluene	mg/l	0.0269	0.0274	108.	77-132	1.76	20	WG660770
sec-Butylbenzene	mg/l	0.0264	0.0263	106.	77-130	0.330	20	WG660770
Styrene	mg/l	0.0267	0.0265	107.	69-145	1.01	20	WG660770
tert-Butylbenzene	mg/l	0.0265	0.0266	106.	76-131	0.490	20	WG660770
Tetrachloroethene	mg/l	0.0256	0.0259	102.	69-131	1.21	20	WG660770
Toluene	mg/l	0.0230	0.0231	92.0	75-114	0.730	20	WG660770
trans-1,2-Dichloroethene	mg/l	0.0217	0.0220	87.0	63-127	1.04	20	WG660770
trans-1,3-Dichloropropene	mg/l	0.0229	0.0234	91.0	69-124	2.27	20	WG660770
Trichloroethene	mg/l	0.0239	0.0236	96.0	69-131	1.52	20	WG660770
Trichlorofluoromethane	mg/l	0.0241	0.0252	96.0	53-161	4.46	20	WG660770
Vinyl chloride	mg/l	0.0245	0.0254	98.0	55-142	3.63	20	WG660770
Xylenes, Total	mg/l	0.0763	0.0753	102.	77-123	1.36	20	WG660770
4-Bromofluorobenzene				110.9	82-120			WG660770
Dibromofluoromethane				96.82	82-126			WG660770
Toluene-d8				107.9	92-112			WG660770

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0211	0	.025	84.3	71-130	L635086-01	WG660770
1,1,1-Trichloroethane	mg/l	0.0222	0	.025	88.6	58-137	L635086-01	WG660770
1,1,2,2-Tetrachloroethane	mg/l	0.0194	0	.025	77.7	64-149	L635086-01	WG660770
1,1,2-Trichloroethane	mg/l	0.0197	0	.025	78.9	73-128	L635086-01	WG660770
1,1-Dichloroethane	mg/l	0.0192	0	.025	76.6	58-133	L635086-01	WG660770
1,1-Dichloroethene	mg/l	0.0201	0	.025	80.4	32-152	L635086-01	WG660770
1,1-Dichloropropene	mg/l	0.0204	0	.025	81.6	50-140	L635086-01	WG660770
1,2,3-Trichlorobenzene	mg/l	0.0205	0	.025	81.9	68-135	L635086-01	WG660770
1,2,3-Trichloropropane	mg/l	0.0190	0	.025	75.8	74-137	L635086-01	WG660770
1,2,4-Trichlorobenzene	mg/l	0.0223	0	.025	89.4	67-133	L635086-01	WG660770
1,2,4-Trimethylbenzene	mg/l	0.0217	0	.025	86.6	62-141	L635086-01	WG660770
1,2-Dibromo-3-Chloropropane	mg/l	0.0187	0	.025	74.6	55-148	L635086-01	WG660770
1,2-Dibromoethane	mg/l	0.0201	0	.025	80.5	71-129	L635086-01	WG660770
1,2-Dichlorobenzene	mg/l	0.0201	0	.025	80.2	75-125	L635086-01	WG660770
1,2-Dichloroethane	mg/l	0.0188	0	.025	75.0	59-135	L635086-01	WG660770
1,2-Dichloropropane	mg/l	0.0197	0	.025	78.9	68-126	L635086-01	WG660770
1,3,5-Trimethylbenzene	mg/l	0.0219	0	.025	87.7	67-136	L635086-01	WG660770
1,3-Dichlorobenzene	mg/l	0.0222	0	.025	88.7	69-131	L635086-01	WG660770
1,3-Dichloropropane	mg/l	0.0194	0	.025	77.7	70-122	L635086-01	WG660770
1,4-Dichlorobenzene	mg/l	0.0203	0	.025	81.2	70-123	L635086-01	WG660770

* 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

L635233

May 16, 2013

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
2,2-Dichloropropane	mg/l	0.0247	0	.025	98.7	51-141	L635086-01	WG660770
2-Butanone (MEK)	mg/l	0.0637	0	.125	51.0*	51-149	L635086-01	WG660770
2-Chloroethyl vinyl ether	mg/l	0.000418	0	.125	0.330*	10-161	L635086-01	WG660770
2-Chlorotoluene	mg/l	0.0214	0	.025	85.6	65-133	L635086-01	WG660770
4-Chlorotoluene	mg/l	0.0213	0	.025	85.3	67-129	L635086-01	WG660770
4-Methyl-2-pentanone (MIBK)	mg/l	0.0952	0	.125	76.1	53-154	L635086-01	WG660770
Acetone	mg/l	0.0324	0	.125	25.9*	34-146	L635086-01	WG660770
Acrolein	mg/l	0.0661	0	.125	52.9	10-189	L635086-01	WG660770
Acrylonitrile	mg/l	0.0702	0	.125	56.2	49-162	L635086-01	WG660770
Benzene	mg/l	0.0185	0	.025	73.8	51-134	L635086-01	WG660770
Bromobenzene	mg/l	0.0208	0	.025	83.3	64-130	L635086-01	WG660770
Bromodichloromethane	mg/l	0.0199	0	.025	79.4	67-132	L635086-01	WG660770
Bromoform	mg/l	0.0202	0	.025	80.8	59-137	L635086-01	WG660770
Bromomethane	mg/l	0.0181	0	.025	72.4	23-177	L635086-01	WG660770
Carbon tetrachloride	mg/l	0.0216	0	.025	86.3	49-140	L635086-01	WG660770
Chlorobenzene	mg/l	0.0209	0	.025	83.6	69-126	L635086-01	WG660770
Chlorodibromomethane	mg/l	0.0206	0	.025	82.5	68-130	L635086-01	WG660770
Chloroethane	mg/l	0.0182	0	.025	72.8	32-177	L635086-01	WG660770
Chloroform	mg/l	0.0203	0	.025	81.1	64-130	L635086-01	WG660770
Chloromethane	mg/l	0.0202	0	.025	81.0	27-155	L635086-01	WG660770
cis-1,2-Dichloroethene	mg/l	0.0189	0	.025	75.8	54-137	L635086-01	WG660770
cis-1,3-Dichloropropene	mg/l	0.0198	0	.025	79.2	63-127	L635086-01	WG660770
Di-isopropyl ether	mg/l	0.0189	0	.025	75.7	58-133	L635086-01	WG660770
Dibromomethane	mg/l	0.0209	0	.025	83.7	68-131	L635086-01	WG660770
Dichlorodifluoromethane	mg/l	0.0258	0	.025	103.	16-188	L635086-01	WG660770
Ethylbenzene	mg/l	0.0217	0	.025	86.8	64-135	L635086-01	WG660770
Hexachloro-1,3-butadiene	mg/l	0.0227	0	.025	90.7	64-140	L635086-01	WG660770
Isopropylbenzene	mg/l	0.0239	0	.025	95.4	62-134	L635086-01	WG660770
Methyl tert-butyl ether	mg/l	0.0196	0	.025	78.5	55-136	L635086-01	WG660770
Methylene Chloride	mg/l	0.0171	0	.025	68.4	52-130	L635086-01	WG660770
n-Butylbenzene	mg/l	0.0211	0	.025	84.2	62-142	L635086-01	WG660770
n-Propylbenzene	mg/l	0.0217	0	.025	86.6	62-137	L635086-01	WG660770
Naphthalene	mg/l	0.0196	0	.025	78.4	65-140	L635086-01	WG660770
p-Isopropyltoluene	mg/l	0.0227	0	.025	90.6	64-142	L635086-01	WG660770
sec-Butylbenzene	mg/l	0.0222	0	.025	88.7	67-139	L635086-01	WG660770
Styrene	mg/l	0.0221	0	.025	88.4	58-152	L635086-01	WG660770
tert-Butylbenzene	mg/l	0.0220	0	.025	88.0	66-139	L635086-01	WG660770
Tetrachloroethene	mg/l	0.0238	0.00328	.025	82.0	56-139	L635086-01	WG660770
Toluene	mg/l	0.0196	0	.025	78.6	61-126	L635086-01	WG660770
trans-1,2-Dichloroethene	mg/l	0.0185	0	.025	73.8	45-137	L635086-01	WG660770
trans-1,3-Dichloropropene	mg/l	0.0193	0	.025	77.2	59-130	L635086-01	WG660770
Trichloroethene	mg/l	0.0206	0.000341	.025	80.9	40-155	L635086-01	WG660770
Trichlorofluoromethane	mg/l	0.0207	0	.025	83.0	35-177	L635086-01	WG660770
Vinyl chloride	mg/l	0.0201	0	.025	80.4	32-159	L635086-01	WG660770
Xylenes, Total	mg/l	0.0629	0	.075	83.9	64-133	L635086-01	WG660770
4-Bromofluorobenzene					108.5	82-120		WG660770
Dibromofluoromethane					99.88	82-126		WG660770
Toluene-d8					106.9	92-112		WG660770

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0236	0.0211	94.4	71-130	11.3	20	L635086-01	WG660770
1,1,1-Trichloroethane	mg/l	0.0237	0.0222	95.0	58-137	6.93	20	L635086-01	WG660770
1,1,2,2-Tetrachloroethane	mg/l	0.0218	0.0194	87.0	64-149	11.4	20	L635086-01	WG660770
1,1,2-Trichloroethane	mg/l	0.0215	0.0197	86.0	73-128	8.59	20	L635086-01	WG660770
1,1-Dichloroethane	mg/l	0.0204	0.0192	81.5	58-133	6.16	20	L635086-01	WG660770
1,1-Dichloroethene	mg/l	0.0211	0.0201	84.3	32-152	4.76	20	L635086-01	WG660770
1,1-Dichloropropene	mg/l	0.0209	0.0204	83.4	50-140	2.21	20	L635086-01	WG660770

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May 16, 2013

Analyte	Units	MSD	Matrix Spike Ref	Duplicate %Rec	Limit	RPD	Limit	Ref Samp	Batch
1,2,3-Trichlorobenzene	mg/l	0.0216	0.0205	86.4	68-135	5.44	20	L635086-01	WG660770
1,2,3-Trichloropropane	mg/l	0.0236	0.0190	94.2	74-137	21.7*	20	L635086-01	WG660770
1,2,4-Trichlorobenzene	mg/l	0.0221	0.0223	88.4	67-133	1.03	20	L635086-01	WG660770
1,2,4-Trimethylbenzene	mg/l	0.0230	0.0217	92.0	62-141	5.98	20	L635086-01	WG660770
1,2-Dibromo-3-Chloropropane	mg/l	0.0222	0.0187	88.7	55-148	17.3	22	L635086-01	WG660770
1,2-Dibromoethane	mg/l	0.0227	0.0201	90.8	71-129	12.0	20	L635086-01	WG660770
1,2-Dichlorobenzene	mg/l	0.0216	0.0201	86.2	75-125	7.25	20	L635086-01	WG660770
1,2-Dichloroethane	mg/l	0.0207	0.0188	82.8	59-135	9.78	20	L635086-01	WG660770
1,2-Dichloropropane	mg/l	0.0214	0.0197	85.7	68-126	8.21	20	L635086-01	WG660770
1,3,5-Trimethylbenzene	mg/l	0.0234	0.0219	93.6	67-136	6.42	20	L635086-01	WG660770
1,3-Dichlorobenzene	mg/l	0.0232	0.0222	92.8	69-131	4.58	20	L635086-01	WG660770
1,3-Dichloropropane	mg/l	0.0216	0.0194	86.5	70-122	10.8	20	L635086-01	WG660770
1,4-Dichlorobenzene	mg/l	0.0218	0.0203	87.2	70-123	7.17	20	L635086-01	WG660770
2,2-Dichloropropane	mg/l	0.0264	0.0247	106.	51-141	6.68	20	L635086-01	WG660770
2-Butanone (MEK)	mg/l	0.0784	0.0637	62.7	51-149	20.7	22	L635086-01	WG660770
2-Chloroethyl vinyl ether	mg/l	0.000376	0.000418	0.301*	10-161	10.6	40	L635086-01	WG660770
2-Chlorotoluene	mg/l	0.0193	0.0214	77.4	65-133	10.2	20	L635086-01	WG660770
4-Chlorotoluene	mg/l	0.0222	0.0213	88.8	67-129	4.08	20	L635086-01	WG660770
4-Methyl-2-pentanone (MIBK)	mg/l	0.115	0.0952	92.4	53-154	19.3	21	L635086-01	WG660770
Acetone	mg/l	0.0368	0.0324	29.5*	34-146	12.8	22	L635086-01	WG660770
Acrolein	mg/l	0.0824	0.0661	65.9	10-189	21.9	30	L635086-01	WG660770
Acrylonitrile	mg/l	0.0828	0.0702	66.2	49-162	16.5	20	L635086-01	WG660770
Benzene	mg/l	0.0198	0.0185	79.1	51-134	6.89	20	L635086-01	WG660770
Bromobenzene	mg/l	0.0220	0.0208	88.0	64-130	5.59	20	L635086-01	WG660770
Bromodichloromethane	mg/l	0.0218	0.0199	87.1	67-132	9.22	20	L635086-01	WG660770
Bromoform	mg/l	0.0219	0.0202	87.7	59-137	8.25	20	L635086-01	WG660770
Bromomethane	mg/l	0.0191	0.0181	76.4	23-177	5.36	21	L635086-01	WG660770
Carbon tetrachloride	mg/l	0.0224	0.0216	89.5	49-140	3.61	20	L635086-01	WG660770
Chlorobenzene	mg/l	0.0219	0.0209	87.5	69-126	4.57	20	L635086-01	WG660770
Chlorodibromomethane	mg/l	0.0231	0.0206	92.3	68-130	11.3	20	L635086-01	WG660770
Chloroethane	mg/l	0.0190	0.0182	76.2	32-177	4.50	21	L635086-01	WG660770
Chloroform	mg/l	0.0213	0.0203	85.4	64-130	5.09	20	L635086-01	WG660770
Chloromethane	mg/l	0.0213	0.0202	85.4	27-155	5.33	20	L635086-01	WG660770
cis-1,2-Dichloroethene	mg/l	0.0206	0.0189	82.3	54-137	8.26	20	L635086-01	WG660770
cis-1,3-Dichloropropene	mg/l	0.0217	0.0198	86.8	63-127	9.12	20	L635086-01	WG660770
Di-isopropyl ether	mg/l	0.0205	0.0189	82.1	58-133	8.12	20	L635086-01	WG660770
Dibromomethane	mg/l	0.0225	0.0209	89.9	68-131	7.10	20	L635086-01	WG660770
Dichlorodifluoromethane	mg/l	0.0269	0.0258	108.	16-188	4.01	22	L635086-01	WG660770
Ethylbenzene	mg/l	0.0225	0.0217	90.0	64-135	3.64	20	L635086-01	WG660770
Hexachloro-1,3-butadiene	mg/l	0.0216	0.0227	86.4	64-140	4.93	20	L635086-01	WG660770
Isopropylbenzene	mg/l	0.0255	0.0239	102.	62-134	6.73	20	L635086-01	WG660770
Methyl tert-butyl ether	mg/l	0.0218	0.0196	87.1	55-136	10.4	20	L635086-01	WG660770
Methylene Chloride	mg/l	0.0183	0.0171	73.1	52-130	6.63	20	L635086-01	WG660770
n-Butylbenzene	mg/l	0.0219	0.0211	87.8	62-142	4.10	20	L635086-01	WG660770
n-Propylbenzene	mg/l	0.0229	0.0217	91.5	62-137	5.43	20	L635086-01	WG660770
Naphthalene	mg/l	0.0212	0.0196	85.0	65-140	8.02	20	L635086-01	WG660770
p-Isopropyltoluene	mg/l	0.0238	0.0227	95.3	64-142	5.02	20	L635086-01	WG660770
sec-Butylbenzene	mg/l	0.0235	0.0222	94.0	67-139	5.77	20	L635086-01	WG660770
Styrene	mg/l	0.0233	0.0221	93.4	58-152	5.49	20	L635086-01	WG660770
tert-Butylbenzene	mg/l	0.0238	0.0220	95.2	66-139	7.91	20	L635086-01	WG660770
Tetrachloroethene	mg/l	0.0252	0.0238	87.7	56-139	5.84	20	L635086-01	WG660770
Toluene	mg/l	0.0209	0.0196	83.7	61-126	6.34	20	L635086-01	WG660770
trans-1,2-Dichloroethene	mg/l	0.0196	0.0185	78.6	45-137	6.19	20	L635086-01	WG660770
trans-1,3-Dichloropropene	mg/l	0.0218	0.0193	87.1	59-130	12.1	20	L635086-01	WG660770
Trichloroethene	mg/l	0.0221	0.0206	86.9	40-155	7.11	20	L635086-01	WG660770
Trichlorofluoromethane	mg/l	0.0224	0.0207	89.5	35-177	7.61	23	L635086-01	WG660770
Vinyl chloride	mg/l	0.0213	0.0201	85.1	32-159	5.63	21	L635086-01	WG660770
Xylenes, Total	mg/l	0.0674	0.0629	89.8	64-133	6.83	20	L635086-01	WG660770
4-Bromofluorobenzene				107.0	82-120				WG660770

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May 16, 2013

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Dibromofluoromethane				95.86	82-126				
Toluene-d8				106.9	92-112				

Batch number /Run number / Sample number cross reference

WG660770: R2671306: L635233-01 02

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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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.

October 26, 2012

North Carolina Department of Environment and Natural Resources
Division of Waste Management
Inactive Hazardous Site Branch
Superfund Section
Green Square Complex
217 West Jones Street
Raleigh, North Carolina 27603

Attention: Mr. Keith Snavely, P.G. Keith.Snavely@ncdenr.gov
Hydrogeologist

Reference: Point of Entry (POE) System Maintenance and Performance Monitoring
Haught Residence
109 Atkinson Street, Hamlet (Richmond Co), NC 28345
NCDENR Contract #N10005S
S&ME, Inc. Proposal No. P135-12V

Dear Mr. Snavely:

S&ME, Inc. (S&ME) appreciates the opportunity to present this work plan and fee proposal to provide maintenance service and performance monitoring of the point of entry (POE) drinking water treatment system for the Haught residence located at 109 Atkinson Street, Hamlet (Richmond County) North Carolina. S&ME is submitting this proposal following NCDENR's Mr. Vince Antrilli's request for a cost estimate for maintenance of the POE system at the Haught residence in a meeting held at NCDENR's Green Square Complex in Raleigh, North Carolina on September 27, 2012.

This proposal presents our scope of services, a schedule for completing the services, and a fee estimate. All services will be provided following the terms and conditions in Contract #N10005S between the North Carolina Department of Environment and Natural Resource (NCDENR) and S&ME. It is our understanding that NCDENR will issue a Task Authorization as notice to proceed with our proposed services.

PROJECT INTRODUCTION

On July 29, 2011, a POE system was installed at the Haught residence for the purpose of removing volatile organic compounds (VOCs). The VOCs previously detected at the Haught's water supply well are 1,1-dichloroethane (1,1-DCA) and 1,1-dichloroethene (1,1-DCE). Maintenance service for the Haught's POE system was conducted on August 24, 2012. On September 27, 2012, Mr. Antrilli of the Inactive Hazardous Sites Branch (IHSB) requested that S&ME provide a cost estimate to provide maintenance services and system monitoring for the Haught POE system through 2013. The following scope of services was developed to address IHSB's request for services.

SCOPE OF SERVICES

TASK 1: Post-Maintenance Samples - 2012

Carbonair serviced the Haught POE system on August 24, 2012. Carbonair removed the first granular activated carbon (GAC) filter and replaced it with the second GAC filter that had been in service since July 29, 2011. A new GAC filter was installed as the second, in series filter. Carbonair also provided six replacement particle filter cartridges and replaced the bulb of the ultraviolet (UV) disinfection system

To monitor the POE system's current performance after Carbonair's post maintenance service, S&ME will mobilize to the site to collect potable water samples from the POE system. Water from the POE system will be purged by opening the spigot located at the effluent of the POE system and allowing the water to flow for 20 minutes. After the water is purged from the system, one water sample will be collected from the POE system influent (untreated water) and one water sample will be collected from the effluent of the first GAC filter tank (treated water) for the purpose of monitoring the POE system's performance in removing VOCs from the water supply. The samples will be analyzed by an NCDENR-approved analytical laboratory by US EPA method 8260B. S&ME will submit only the laboratory analytical report to IHSB via email without interpretation of the results.

TASK 2: 8-Month Performance Monitoring Samples – April 2013

Additional POE system performance-monitoring will be accomplished by collecting potable water samples from the influent and effluent of the POE system at approximately eight months after system servicing (estimated to occur in April 2013). The potable water sample collection procedure for the 8-month performance monitoring samples will follow the same procedure for the Post-Maintenance sampling event described in **Task 1**. S&ME will submit only the laboratory analytical report to IHSB via email without interpretation of the results.

Within one week of receipt of laboratory analytical results, if targeted VOCs are detected at concentrations above laboratory method detection limits (MDLs) (per EPA Method 8260B), S&ME will service the POE system. However, if target VOCs are not detected at concentrations above MDLs in the samples collected during the 8-month performance monitoring event, S&ME will return to the site four months later (estimated to occur in August 2013) to service the POE system.

TASK 3: POE System Maintenance

S&ME's POE System Maintenance Service will consist of replacing the first GAC filter in series with the second GAC filter and then replacing the second GAC filter with a fresh, unused GAC filter. S&ME will also provide the Haught residence with16 replacement particle filter cartridges and will exchange the system's UV bulb with a new UV bulb.

TASK 4: Post-Maintenance Samples - 2013

Following the POE system maintenance event described in **Task 3**, S&ME will return to the site within one week to collect a set of potable water samples using the same procedures used for the POE system sampling event described in **Task 1**.

SCHEDULE

S&ME will mobilize to the site to collect Post-Maintenance samples within one week of receiving the Task Authorization. The 8-Month performance monitoring samples will be collected in April 2013. The 2013 POE system maintenance will be conducted in April 2013 or August 2013, pending the laboratory analytical results collected in April 2013

ASSOCIATED FEES

The services described herein will be provided on a time and materials basis in accordance with our contract fee schedule. The budget for the scope of services described in this proposal is **$3,500**. The proposed fee is based on the attached itemized fee sheet (**Table 1**), in accordance with our fee schedule.

AUTHORIZATION

It is our understanding that IHSB will authorize these services through a task authorization letter. Once in receipt of the authorization, S&ME will proceed with our services.

We trust that this revised work plan and fee proposal is responsive to your needs. S&ME appreciates the opportunity to assist IHSB. Please contact us at (919) 872-2660 if you have any questions or comments regarding this proposal.

Sincerely,
S&ME, Inc.

Whit Rawls, P.E.
Project Engineer

Edmund Woloszyn, Jr., R.E.M.
Senior Consultant

Attachments: Table 1 - Itemized Fees

Table 1
Itemized Fees
Haught Residence
POE System Maintenance and Performance Monitoring
DENR Contract #N10005S
S&ME Proposal No. P135-12V
October 26, 2012

TASK 1: POST-MAINTENANCE SAMPLES	Units		Rates		Subtotal	Fee/Task
Administrative						
Staff Professional Labor	1	hrs@	$ 75.00	/hr	$ 75.00	
Clerical	0.5	hrs@	$ 42.50	/hr	$ 21.25	
Field Support and Analytical						
Technician Labor	4.5	hrs@	$ 60.00	/hr	$ 270.00	$ 696.25
Technician Mileage - Mobilization to Marshville from Charlotte, NC	180	miles @	$ 0.55	/mi	$ 99.00	
Influent Sample - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Effluent - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Trip Blank - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	

TASK 2: 8-MONTH PERFORMANCE MONITORING SAMPLES	Units		Rates		Subtotal	Fee/Task
Administrative						
Staff Professional Labor	1	hrs@	$ 75.00	/hr	$ 75.00	
Clerical	0.5	hrs@	$ 42.50	/hr	$ 21.25	
Field Support and Analytical						
Technician Labor	4.5	hrs@	$ 60.00	/hr	$ 270.00	$ 696.25
Technician Mileage - Mobilization to Marshville from Charlotte, NC	180	miles @	$ 0.55	/mi	$ 99.00	
Influent Sample - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Effluent - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Trip Blank - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	

TASK 3: POE SYSTEM MAINTENANCE	Units		Rates		Subtotal	Fee/Task
Administrative						
Staff Professional Labor	1	hrs @	$ 75.00	/hr	$ 75.00	
Clerical	0.5	hrs@	$ 42.50	/hr	$ 21.25	
Field Support						
Technician Labor	5.5	hrs @	$ 60.00	/hr	$ 330.00	
Technician Mileage - Mobilization to Hamlet from Charlotte, NC	180	miles @	$ 0.55	/mi	$ 99.00	
POE System Materials						$ 1,343.84
Replacement UV bulb	1	ea @	$ 54.34	/ea	$ 54.34	
Replacement particle filter cartridges	16	ea @	$ 5.75	/ea	$ 92.00	
Replacement activated carbon filter	1	ea @	$ 477.25	/ea	$ 477.25	
Spent activated carbon disposal	1	ea @	$ 145.00	/ea	$ 145.00	
Miscellaneous Materials	1	ea @	$ 50.00	/ea	$ 50.00	

TASK 4: POST-MAINTENANCE SAMPLES	Units		Rates		Subtotal	Fee/Task
Administrative						
Staff Professional Labor	1	hrs@	$ 75.00	/hr	$ 75.00	
Clerical	0.5	hrs@	$ 42.50	/hr	$ 21.25	
Field Support and Analytical						
Technician Labor	4.5	hrs@	$ 60.00	/hr	$ 270.00	$ 696.25
Technician Mileage - Mobilization to Marshville from Charlotte, NC	180	miles @	$ 0.55	/mi	$ 99.00	
Influent Sample - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Effluent - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	
Trip Blank - VOCs (8260B)	1	ea @	$ 77.00	/ea	$ 77.00	

Total Projected Fee	**$ 3,432.59**
Suggested Budget	**$ 3,500.00**