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MAR 22 2013

SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION

Ms. Addie Walker
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

**Subject: DMT Area December 2012 Monitoring
Auriga, Spartanburg Facility (fka INVISTA)
BoW Site ID# 00225, VCC 13-5841-RP
AECOM Project No. 60242428**

March 21, 2013

Dear Ms. Walker,

This technical memorandum presents the data collected during December 2012 at the Auriga Spartanburg facility. The sampling completed in December focused on the former DMT Area and the chloroform remediation activities. Complete analytical reports are in Attachment 1. The December 2012 monitoring locations are shown on Figure 1. Groundwater data collected in December are summarized in Table 1. Only volatile organic parameters detected in at least one sample are included in Table 1. The results for the surface water sample collected from location SW-12 are summarized in Table 2. Chloroform was detected at a concentration of 0.0187 in the surface water sample. This result is below the MCL (0.080 mg/l) and is within the range of detections typically noted for this location.

Detailed assessments of current site conditions were presented in the June 2012 Groundwater and Surface Water Monitoring Report submitted in September 2012. The site conditions for the DMT area reported in December 2012 are consistent with the results of the June 2012 sampling. A significant change was noted in the sample from well MW-107. The chloroform result in the sample from this well was 0.0468 mg/L (milligrams per liter). This was the first result below the MCL (0.080 mg/L) from this well since 2004.

Several wells in the DMT area have been removed from the monitoring program over recent years as a result of consistent non-detect results for chloroform. In March 2012 AECOM proposed that all wells in the DMT areas would be sampled during the next sampling event. The additional locations were sampled as part of the June 2012 event. Results of the June 2012 event are presented in the monitoring report submitted in September 2012. A comparison of chloroform results between the June and December 2012 events is presented in Table 3. The results for wells sampled during both events were comparable. MW-105 was the only location with a higher result in December than June (0.117 mg/L vs. 0.104 mg/L). The June 2012 results for all locations not included in the December sampling program were non-detect. These results confirm that the prior removal of these wells from the December plan remains appropriate.

The chloroform result for the sample from well MW-109 located in the I-85 right-of-way was 0.586 mg/L. The result from this well has declined from 0.861 mg/L in December 2011 and 0.631 mg/L in

June 2012. Prior to the two consecutive declines noted in 2012, the concentration at well MW-109 had been increasing. The result reported at well RW-108 (nested with MW-109) remained non-detect for chloroform at <0.005 mg/L.

The next site-wide event is scheduled for completion in June 2013. A report summarizing the results of this event will be submitted by September 30, 2013.

If you have questions, please contact us at 404.965.9600.

Sincerely,



Bryon Dahlgren
Project Manager



Everett W. Glover, Jr., PE
Senior Program Manager

Attachments: Table 1 Summary of Groundwater Analytical Results, December 2012
Table 2 Summary of Surface Water Analytical Results, December 2012
Table 3 Comparison of June and December 2012 Chloroform Results
Figure 1 Sampling Locations
Attachment: December 2012 Analytical Report

Table 1
 Summary of Groundwater Analytical Results
 December 2012
 Auriga Spartanburg Facility
 AECOM Project No. 60242428

Parameter	Unit	EW-31 12/05/2012	EW-37 12/06/2012	EW-41 12/05/2012	EW-41 Dup 12/05/2012	EW-49 12/05/2012	EW-52 12/06/2012	EW-53 12/06/2012	MW-52 12/05/2012	MW-99 12/06/2012	MW-103 12/06/2012
Volatile Organics											
chloroform	mg/L	<0.005	<0.005	0.0778	0.079	<0.005	<0.005	<0.005	<0.005	0.00744	<0.005
cis-1,2-dichloroethene	mg/L	<0.005	<0.005	<0.005	<0.005	0.00651	0.0441	<0.005	<0.005	0.094	<0.005
tetrachloroethene	mg/L	<0.005	0.00664	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.163	<0.005
trichloroethene	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0316	<0.005
Field and Natural Attenuation Parameters											
alkalinity	mg/L	120	26.7	33.3	34.3	91.2	52.3	62.5	NA	3.59	3.59
chloride	mg/L	8	12.1	3.74	3.81	2.17	3.09	10.5	NA	1.87	2.99
dissolved oxygen	mg/L	0.43	0.22	0.38	0.38	0.6	0.37	0.21	4.11	2.11	6.82
ferrrous iron	mg/L	1.2	0.2	1.2	1.2	0.0	4.2	4.6	NA	<0.1	<0.1
groundwater elevation	feet MSL	669.18	718.11	669.05	669.05	725.05	721.48	694.24	687.67	730.01	689.05
manganese (dissolved)	mg/L	1.56	0.917	0.896	0.884	0.057	0.201	1.45	NA	0.035	0.043
ORP	mV	-105.8	151.3	44	44	-189.4	-71.9	-22	153.4	277.5	345.3
pH	su	6.92	5.74	5.82	5.82	8.14	6.45	6.18	6.44	5.21	4.61
specific conductance	umhos/cm	269	125	103	103	209	154	171	149	30	53
temperature	degrees C	16.55	18.34	17.45	17.45	18.55	14.63	18.85	18.51	18.69	16.64
total organic carbon	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
turbidity	NTU	4.3	7.2	60.7	60.7	2.2	40.5	18.9	650	8.2	5.8

NA - Not Analyzed
 degrees C - degrees Celsius
 feet MSL - feet above mean sea level
 mg/L - milligrams per liter
 mV - millivolts
 NTU - nephelometric turbidity units
 su - standard units
 umhos/cm - micromhos/cm

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Table 1
 Summary of Groundwater Analytical Results
 December 2012
 Auriga Spartanburg Facility
 AECOM Project No. 60242428

Parameter	Unit	MW-105 12/05/2012	MW-106 12/05/2012	MW-107 12/06/2012	MW-109 12/05/2012	RW-29 12/05/2012	RW-48 12/05/2012	RW-65 12/06/2012	RW-108 12/05/2012
Volatiles Organics chloroform	mg/L	0.117	0.218	0.0468	0.586	<0.005	<0.005	<0.005	<0.005
cis-1,2-dichloroethene	mg/L	0.0165	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005
tetrachloroethene	mg/L	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005
trichloroethene	mg/L	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005
Field and Natural Attenuation Parameters									
alkalinity	mg/L	9.74	<1	25.1	16.4	65.8	62.4	107	186
chloride	mg/L	6.22	11.2	2.16	3.62	1.48	3.23	12.7	4.94
dissolved oxygen	mg/L	4.39	6.55	7.36	9.21	0.21	0.24	0.55	0.41
ferrous iron	mg/L	<0.1	<0.1	<0.1	0.14	0.0	1.6	0.4	0.16
groundwater elevation	feet MSL	715.59	716.04	685.08	674	770.99	704.91	682.84	673.3
manganese (dissolved)	mg/L	<0.01	0.021	<0.01	<0.01	0.014	2.65	1.8	0.169
ORP	mV	226.8	292.9	197.6	184.1	-240.7	-175.9	-86.5	-86.11
pH	su	5.37	4.95	5.63	5.82	8.13	6.84	7.37	7.81
specific conductance	umhos/cm	69	63	67	56	152	208	258	326
temperature	degrees C	18.67	18.95	17.0	17.91	17.75	18.25	16.77	17.79
total organic carbon	mg/L	<1	<1	<1	<1	<1	<1	<1	<1
turbidity	NTU	2.2	3.4	0.6	281.6	6.9	75.8	1.8	15

NA - Not Analyzed
 degrees C - degrees Celsius
 feet MSL - feet above mean sea level
 mg/L - milligrams per liter
 mV - millivolts
 NTU - nephelometric turbidity units
 su - standard units
 umhos/cm - micromhos/cm

Table 2
Summary of Surface Water Analytical Results
December 2012
Auriga Spartanburg Facility
AECOM Project No. 60280417

Parameter	Unit	SW-12 12/05/2012
Volatiles Organics		
chloroform	mg/L	0.0187
Field and Natural Attenuation Parameters		
alkalinity	mg/L	<1
dissolved oxygen	mg/L	8.07
ferrous iron	mg/L	<0.01
manganese (dissolved)	mg/L	<0.01
ORP	mV	157.6
pH	su	6.11
specific conductance	umhos/cm	0.103
temperature	degrees C	14.24
total organic carbon	mg/L	<1
turbidity	NTU	10.91

NA - Not Analyzed

degrees C - degrees Celsius

feet MSL - feet above mean sea level

mg/L - milligrams per liter

mV - millivolts

NTU - nephelometric turbidity units

su - standard units

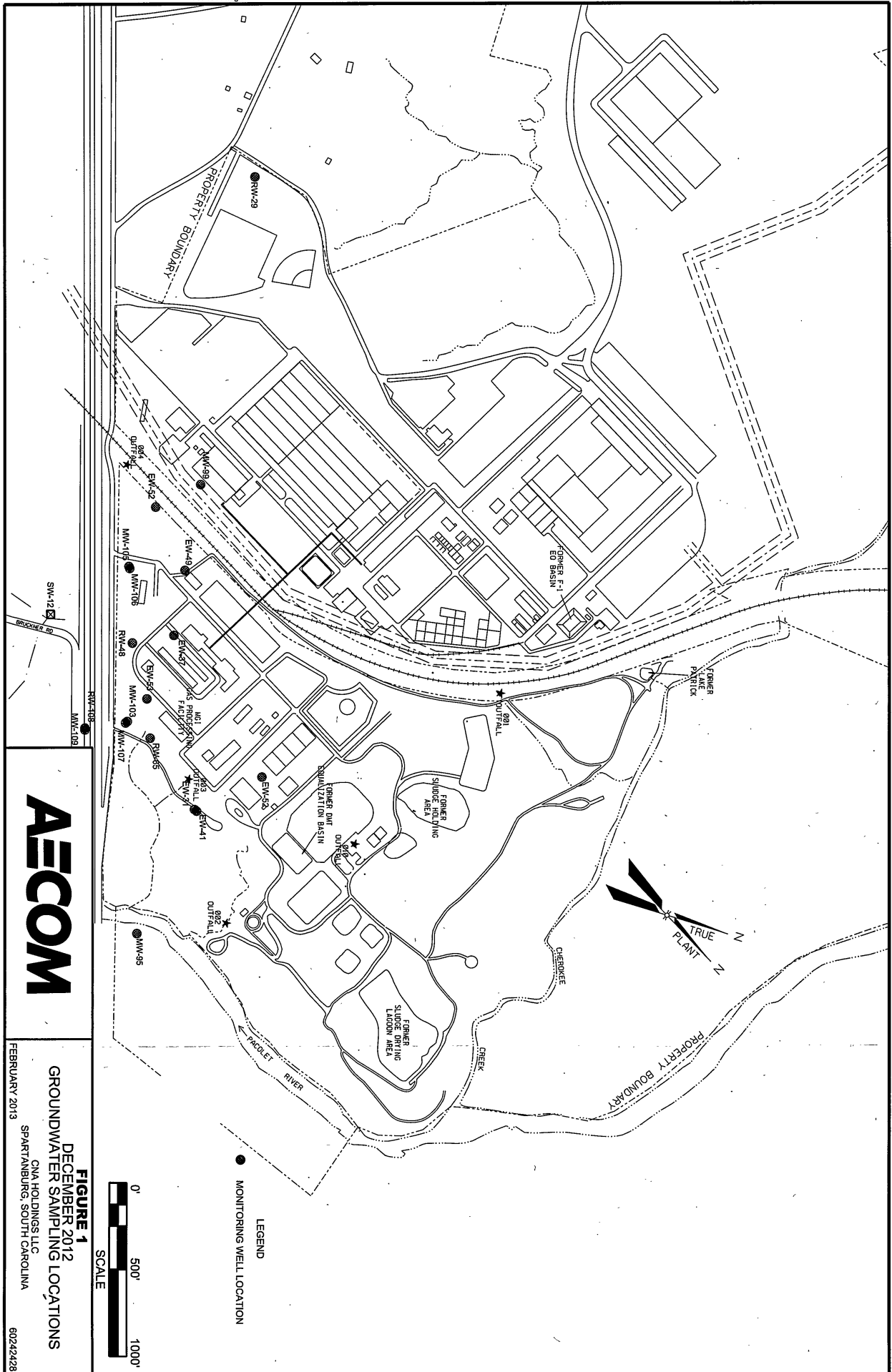
umhos/cm - micromhos/cm

** Duplicate samples for these compounds was not necessary.

Table 3
Comparison of June and December 2012 Chloroform Results (mg/L)
Auriga Spartanburg Facility
AECOM Project No. 60280417

Location	June 2012 Result	December 2012 Result
EW-30	<0.005	NS
EW-31	<0.005	<0.005
EW-36	<0.005	NS
EW-37	<0.005	<0.005
EW-39	<0.005	NS
EW-40	<0.25	NS
EW-41	0.128	0.0778
EW-44	<0.005	NS
EW-49	<0.005	<0.005
EW-50	<0.005	NS
EW-52	<0.005	<0.005
EW-53	<0.005	<0.005
MW-45	<0.005	NS
MW-46	<0.005	NS
MW-52	NS	<0.005
MW-98	<0.005	NS
MW-99	0.00851	0.00744
MW-103	<0.005	<0.005
MW-105	0.104	0.117
MW-106	0.352	0.218
MW-107	0.166	0.0468
MW-109	0.631	0.586
RW-29	<0.005	<0.005
RW-47	<0.005	NS
RW-48	<0.005	<0.005
RW-65	<0.005	<0.005
RW-108	<0.005	<0.005

NS - Not Sampled



0 500' 1000'
 SCALE

LEGEND
 ● MONITORING WELL LOCATION

FIGURE 1
 DECEMBER 2012
 GROUNDWATER SAMPLING LOCATIONS
 CNA HOLDINGS, LLC
 SPARTANBURG, SOUTH CAROLINA
 FEBRUARY 2013 60242428



Attachment

**December 2012 Analytical
Reports**

January 03, 2013

BRYON DAHLGREN
AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076

Report ID : AL23
Page 1 of 105

Login Number	:L12121002
Project Number	:61576.07
Description	:AURIGA POLYMERS - SPARTANBURG, SC

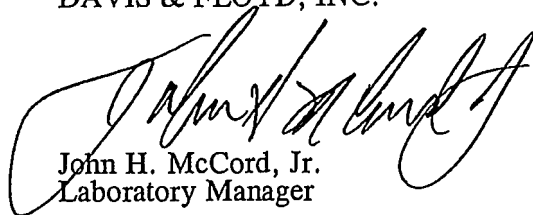
Dear Bryon Dahlgren:

We are pleased to provide the enclosed analytical results for the samples received by Davis & Floyd, Inc. on December 07, 2012.

A formal Quality Assurance/Quality Control program is maintained by Davis & Floyd, which is designed to meet or exceed the ISO/IEC 17025, EPA, NELAP or other appropriate regulatory requirements. All analytical analyses for this project met QA/QC criteria and the results are within the 99% confidence interval for each method unless otherwise stated in the footnotes. This report is to be reproduced only in full.

Feel free to contact our Client Services Representative at (864) 229-4413 if further explanation of the analysis is required. Unless other arrangements have been made, samples will be disposed of or returned 14 days from the date of the report. We appreciate the opportunity to provide services to your firm.

Sincerely,
DAVIS & FLOYD, INC.



John H. McCord, Jr.
Laboratory Manager

This report contains a TOTAL of 108 pages, including attachments.

Initials: 

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

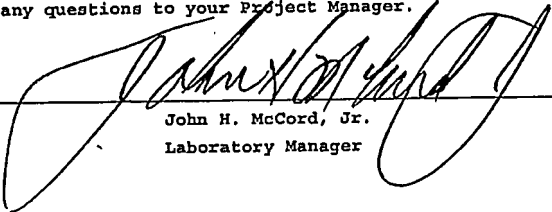
Project Number: 61576.07
Report Date : January 03, 2013
Page 2 of 105 Report ID: AL23

Certificate of Analysis Report

Sample ID	Client ID	Date Collected	Date Received
L12121002-01	RW-29	12/05/2012 0905	12/07/2012
L12121002-02	EW-49	12/05/2012 1005	12/07/2012
L12121002-03	MW-109	12/05/2012 1015	12/07/2012
L12121002-04	MW-105	12/05/2012 1100	12/07/2012
L12121002-05	RW-108	12/05/2012 1130	12/07/2012
L12121002-06	MW-106	12/05/2012 1155	12/07/2012
L12121002-07	SW-12	12/05/2012 1255	12/07/2012
L12121002-08	RW-48	12/05/2012 1340	12/07/2012
L12121002-09	EW-41	12/05/2012 1510	12/07/2012
L12121002-10	EW-31	12/05/2012 1605	12/07/2012
L12121002-11	DW-11	12/05/2012 1830	12/07/2012
L12121002-12	MW-201	12/05/2012 1900	12/07/2012
L12121002-13	MW-99	12/06/2012 0900	12/07/2012
L12121002-14	MW-103	12/06/2012 1005	12/07/2012
L12121002-15	MW-202	12/06/2012 1050	12/07/2012
L12121002-16	EW-52	12/06/2012 1110	12/07/2012
L12121002-17	RW-65	12/06/2012 1205	12/07/2012
L12121002-18	MW-107	12/06/2012 1255	12/07/2012
L12121002-19	EW-37	12/06/2012 1355	12/07/2012
L12121002-20	EW-53	12/06/2012 1500	12/07/2012
L12121002-21	MW-200	12/05/2012 1400	12/07/2012
L12121002-22	MW-52	12/05/2012 1520	12/07/2012

This data report has been prepared and reviewed in accordance with standard operating procedures. Test results relate only to the sample tested. Please direct any questions to your Project Manager.

Reviewed by


John H. McCord, Jr.
Laboratory Manager

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 3 of 105 Report ID: AL23

Certificate of Analysis

Client ID: RW-29
Sample ID: L12121002-01

Date Collected: 12/05/2012 0905
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1402 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED 0.0140 0.0100 mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/12/2012 1901 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM \
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 4 of 105 Report ID: AL23

Certificate of Analysis

Client ID: RW-29
Sample ID: L12121002-01

Date Collected: 12/05/2012 0905
Date Received : 12/07/2012

Table with 6 columns: Parameter, Result, Qual, RDL, Units. Lists various chemical parameters such as CIS-1,2-DICHLOROETHENE, CYCLOHEXANE, and XYLENE (TOTAL) with their respective results and RDL values.

Wet Chemistry SM 2320B

Table for Wet Chemistry SM 2320B showing Date/Time: 12/18/2012 0922, Analyst: CDC, Dilution: 1. Parameters include ALKALINITY, TOTAL (65.8) and ENDPOINT PH (4.50).

SW846 9056A

Table for SW846 9056A showing Date/Time: 12/13/2012 0225, Analyst: CDC, Dilution: 1. Parameter: CHLORIDE, TOTAL (1.48).

SW846 9060A

Table for SW846 9060A showing Date/Time: 12/26/2012 1529, Analyst: CDC, Dilution: 1. Parameters include ORGANIC CARBON, TOTAL - AVG, HIGH, and LOW, all with results of 1.00.

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
Page 5 of 105 Report ID: AL23

Certificate of Analysis

Client ID: RW-29
Sample ID: L12121002-01

Date Collected: 12/05/2012 0905
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 6 of 105 Report ID: AL23

Certificate of Analysis

Client ID: EW-49
Sample ID: L12121002-02

Date Collected: 12/05/2012 1005
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1406	Analyst: BDL	Dilution: 1
MANGANESE, DISSOLVED	0.0570	0.0100 mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/12/2012 1928	Analyst: JVB	Dilution: 1
1,1,1-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U 10.0 ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHENE	<	5.00 U 5.00 ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U 5.00 ug/l
1,2-DIBROMOETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROPROPANE	<	5.00 U 5.00 ug/l
1,3-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,4-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
2-BUTANONE	<	10.0 U 10.0 ug/l
2-HEXANONE	<	10.0 U 10.0 ug/l
4-METHYL-2-PENTANONE	<	5.00 U 5.00 ug/l
ACETONE	<	10.0 U 10.0 ug/l
BENZENE	<	5.00 U 5.00 ug/l
BROMODICHLOROMETHANE	<	5.00 U 5.00 ug/l
BROMOFORM	<	5.00 U 5.00 ug/l
BROMOMETHANE	<	10.0 U 10.0 ug/l
CARBON DISULFIDE	<	5.00 U 5.00 ug/l
CARBON TETRACHLORIDE	<	5.00 U 5.00 ug/l
CHLOROBENZENE	<	5.00 U 5.00 ug/l
CHLOROETHANE	<	10.0 U 10.0 ug/l
CHLOROFORM	<	5.00 U 5.00 ug/l
CHLOROMETHANE	<	10.0 U 10.0 ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 7 of 105 Report ID: AL23

Certificate of Analysis

Client ID: EW-49
Sample ID: L12121002-02

Date Collected: 12/05/2012 1005
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	6.51		5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	101 %		(74-140)	
Surr: BROMOFLUOROBENZENE	89 %		(77-133)	
Surr: TOLUENE-D8	92 %		(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 0926	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	91.2	2.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 0357	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	2.17	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1558	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Certificate of Analysis

Client ID: EW-49
Sample ID: L12121002-02

Date Collected: 12/05/2012 1005
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

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Certificate of Analysis

Client ID: MW-109
Sample ID: L12121002-03

Date Collected: 12/05/2012 1015
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1410 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED < 0.0100 U 0.0100 mg/l

Volatile Organics
SW846 9260B

Date/Time: 12/12/2012 2257 Analyst: JVB Dilution: 5

1,1,1-TRICHLOROETHANE	<	25.0	U	25.0	ug/l
1,1,2,2-TETRACHLOROETHANE	<	25.0	U	25.0	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	50.0	U	50.0	ug/l
1,1,2-TRICHLOROETHANE	<	25.0	U	25.0	ug/l
1,1-DICHLOROETHANE	<	25.0	U	25.0	ug/l
1,1-DICHLOROETHENE	<	25.0	U	25.0	ug/l
1,2,3-TRICHLOROBENZENE	<	25.0	U	25.0	ug/l
1,2,4-TRICHLOROBENZENE	<	25.0	U	25.0	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	25.0	U	25.0	ug/l
1,2-DIBROMOETHANE	<	25.0	U	25.0	ug/l
1,2-DICHLOROBENZENE	<	25.0	U	25.0	ug/l
1,2-DICHLOROETHANE	<	25.0	U	25.0	ug/l
1,2-DICHLOROPROPANE	<	25.0	U	25.0	ug/l
1,3-DICHLOROBENZENE	<	25.0	U	25.0	ug/l
1,4-DICHLOROBENZENE	<	25.0	U	25.0	ug/l
2-BUTANONE	<	50.0	U	50.0	ug/l
2-HEXANONE	<	50.0	U	50.0	ug/l
4-METHYL-2-PENTANONE	<	25.0	U	25.0	ug/l
ACETONE	<	50.0	U	50.0	ug/l
BENZENE	<	25.0	U	25.0	ug/l
BROMODICHLOROMETHANE	<	25.0	U	25.0	ug/l
BROMOFORM	<	25.0	U	25.0	ug/l
BROMOMETHANE	<	50.0	U	50.0	ug/l
CARBON DISULFIDE	<	25.0	U	25.0	ug/l
CARBON TETRACHLORIDE	<	25.0	U	25.0	ug/l
CHLOROBENZENE	<	25.0	U	25.0	ug/l
CHLOROETHANE	<	50.0	U	50.0	ug/l
CHLOROFORM	<	586		25.0	ug/l
CHLOROMETHANE	<	50.0	U	50.0	ug/l

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Certificate of Analysis

Client ID: MW-109
Sample ID: L12121002-03

Date Collected: 12/05/2012 1015
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	25.0 U	25.0	ug/l
CIS-1,3-DICHLOROPROPENE	<	25.0 U	25.0	ug/l
CYCLOHEXANE	<	25.0 U	25.0	ug/l
DIBROMOCHLOROMETHANE	<	25.0 U	25.0	ug/l
DICHLORODIFLUOROMETHANE	<	25.0 U	25.0	ug/l
ETHYLBENZENE	<	25.0 U	25.0	ug/l
ISOPROPYL BENZENE	<	25.0 U	25.0	ug/l
METHYL ACETATE	<	50.0 U	50.0	ug/l
METHYL-TERT-BUTYL ETHER	<	25.0 U	25.0	ug/l
METHYLCYCLOHEXANE	<	25.0 U	25.0	ug/l
METHYLENE CHLORIDE	<	25.0 U	25.0	ug/l
STYRENE	<	25.0 U	25.0	ug/l
TETRACHLOROETHENE	<	25.0 U	25.0	ug/l
TOLUENE	<	25.0 U	25.0	ug/l
TRANS-1,2-DICHLOROETHENE	<	25.0 U	25.0	ug/l
TRANS-1,3-DICHLOROPROPENE	<	25.0 U	25.0	ug/l
TRICHLOROETHENE	<	25.0 U	25.0	ug/l
TRICHLOROFLUOROMETHANE	<	25.0 U	25.0	ug/l
VINYL ACETATE	<	50.0 U	50.0	ug/l
VINYL CHLORIDE	<	50.0 U	50.0	ug/l
XYLENE (TOTAL)	<	25.0 U	25.0	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 %	(74-140)	
Surr: BROMOFLUOROBENZENE		86 %	(77-133)	
Surr: TOLUENE-D8		88 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 0935	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	16.4	1.00 mg/l
ENDPOINT PH	4.20	su

SW846 9056A

Date/Time: 12/13/2012 0428	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	3.62	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1625	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

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Client ID: MW-109
Sample ID: L12121002-03

Date Collected: 12/05/2012 1015
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures:			
METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Client ID: MW-105
Sample ID: L12121002-04

Date Collected: 12/05/2012 1100
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1414	Analyst: BDL	Dilution: 1		
MANGANESE, DISSOLVED	<	0.0100 U	0.0100	mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/12/2012 1954	Analyst: JVB	Dilution: 1		
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	117	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
 1455 OLD ALABAMA RD.
 SUITE 170
 ROSWELL, GA 30076
 Contact : BRYON DAHLGREN

Project Number: 61576.07
 Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-105
 Sample ID: L12121002-04

Date Collected: 12/05/2012 1100
 Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	16.5		5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	100 %		(74-140)	
Surr: BROMOFLUOROBENZENE	88 %		(77-133)	
Surr: TOLUENE-D8	91 %		(77-131)	

Wet Chemistry
 SM 2320B

Date/Time: 12/18/2012 0941 Analyst: CDC Dilution: 1

ALKALINITY, TOTAL	9.74	1.00	mg/l
ENDPOINT PH	4.20		su

SW846 9056A

Date/Time: 12/13/2012 0458 Analyst: CDC Dilution: 1

CHLORIDE, TOTAL	6.22	1.00	mg/l
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SW846 9060A

Date/Time: 12/26/2012 1654 Analyst: CDC Dilution: 1

ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00	mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-105
Sample ID: L12121002-04

Date Collected: 12/05/2012 1100
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-108
Sample ID: L12121002-05

Date Collected: 12/05/2012 1130
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals SW846 6010C

Date/Time: 12/11/2012 1418 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED 0.169 0.0100 mg/l

Volatile Organics SW846 8260B

Date/Time: 12/12/2012 2020 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-108
Sample ID: L12121002-05

Date Collected: 12/05/2012 1130
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		101 %	(74-140)	
Surr: BROMOFLUOROBENZENE		89 %	(77-133)	
Surr: TOLUENE-D8		91 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 0947	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	186	3.33 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 0529	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	4.94	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1722	Analyst: CDC	Dilution: 1	
ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-108
Sample ID: L12121002-05

Date Collected: 12/05/2012 1130
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-106
Sample ID: L12121002-06

Date Collected: 12/05/2012 1155
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1422	Analyst: BDL	Dilution: 1
MANGANESE, DISSOLVED	0.0210	0.0100 mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/12/2012 2046	Analyst: JVB	Dilution: 1
1,1,1-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U 10.0 ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHENE	<	5.00 U 5.00 ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U 5.00 ug/l
1,2-DIBROMOETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROPROPANE	<	5.00 U 5.00 ug/l
1,3-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,4-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
2-BUTANONE	<	10.0 U 10.0 ug/l
2-HEXANONE	<	10.0 U 10.0 ug/l
4-METHYL-2-PENTANONE	<	5.00 U 5.00 ug/l
ACETONE	<	10.0 U 10.0 ug/l
BENZENE	<	5.00 U 5.00 ug/l
BROMODICHLOROMETHANE	<	5.00 U 5.00 ug/l
BROMOFORM	<	5.00 U 5.00 ug/l
BROMOMETHANE	<	10.0 U 10.0 ug/l
CARBON DISULFIDE	<	5.00 U 5.00 ug/l
CARBON TETRACHLORIDE	<	5.00 U 5.00 ug/l
CHLOROBENZENE	<	5.00 U 5.00 ug/l
CHLOROETHANE	<	10.0 U 10.0 ug/l
CHLOROMETHANE	<	10.0 U 10.0 ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U 5.00 ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-106
Sample ID: L12121002-06

Date Collected: 12/05/2012 1155
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 %	(74-140)	
Surr: BROMOFLUOROBENZENE		88 %	(77-133)	
Surr: TOLUENE-D8		92 %	(77-131)	
Date/Time: 12/13/2012 1645 Analyst: JVB Dilution: 2				
CHLOROFORM		218	10.0	ug/l
Surr: 1,2-DICHLOROETHANE-D4		94 %	(74-140)	
Surr: BROMOFLUOROBENZENE		91 %	(77-133)	
Surr: TOLUENE-D8		94 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1023	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	<	1.00 U 1.00 mg/l
ENDPOINT PH		4.20 su

SW846 9056A

Date/Time: 12/13/2012 0559	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL		11.2 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-106
Sample ID: L12121002-06

Date Collected: 12/05/2012 1155
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
SW846 9060A				
Date/Time: 12/26/2012 1751 Analyst: CDC Dilution: 1				
ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00	mg/l

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: SW-12
Sample ID: L12121002-07

Date Collected: 12/05/2012 1255
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SWB46 8260B				
Date/Time: 12/12/2012 2113 Analyst: JVB Dilution: 1				
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	18.7	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: SW-12
Sample ID: L12121002-07

Date Collected: 12/05/2012 1255
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		98 %	(74-140)	
Surr: BROMOFLUOROBENZENE		84 %	(77-133)	
Surr: TOLUENE-D8		85 %	(77-131)	



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-48
Sample ID: L12121002-08

Date Collected: 12/05/2012 1340
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1426

Analyst: BDL

Dilution: 1

Parameter	Result	Qual	RDL	Units
MANGANESE, DISSOLVED	2.65		0.0100	mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/12/2012 2139

Analyst: JVB

Dilution: 1

Parameter	Result	Qual	RDL	Units
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-48
Sample ID: L12121002-08

Date Collected: 12/05/2012 1340
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 ‡	(74-140)	
Surr: BROMOFLUOROBENZENE		84 ‡	(77-133)	
Surr: TOLUENE-D8		88 ‡	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1030 Analyst: CDC Dilution: 1
 ALKALINITY, TOTAL 62.4 1.82 mg/l
 ENDPOINT PH 4.50 su

SW846 9056A

Date/Time: 12/13/2012 0630 Analyst: CDC Dilution: 1
 CHLORIDE, TOTAL 3.23 1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1819 Analyst: CDC Dilution: 1
 ORGANIC CARBON, TOTAL - AVG < 1.00 U 1.00 mg/l
 ORGANIC CARBON, TOTAL - HIGH < 1.00 U 1.00 mg/l
 ORGANIC CARBON, TOTAL - LOW < 1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-48
Sample ID: L12121002-08

Date Collected: 12/05/2012 1340
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-41
Sample ID: L12121002-09

Date Collected: 12/05/2012 1510
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1430	Analyst: BDL	Dilution: 1
MANGANESE, DISSOLVED	0.896	0.0100 mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/12/2012 2205	Analyst: JVB	Dilution: 1
1,1,1-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U 5.00 ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U 10.0 ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,1-DICHLOROETHENE	<	5.00 U 5.00 ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U 5.00 ug/l
1,2-DIBROMOETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,2-DICHLOROETHANE	<	5.00 U 5.00 ug/l
1,2-DICHLOROPROPANE	<	5.00 U 5.00 ug/l
1,3-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
1,4-DICHLOROBENZENE	<	5.00 U 5.00 ug/l
2-BUTANONE	<	10.0 U 10.0 ug/l
2-HEXANONE	<	10.0 U 10.0 ug/l
4-METHYL-2-PENTANONE	<	5.00 U 5.00 ug/l
ACETONE	<	10.0 U 10.0 ug/l
BENZENE	<	5.00 U 5.00 ug/l
BROMODICHLOROMETHANE	<	5.00 U 5.00 ug/l
BROMOFORM	<	5.00 U 5.00 ug/l
BROMOMETHANE	<	10.0 U 10.0 ug/l
CARBON DISULFIDE	<	5.00 U 5.00 ug/l
CARBON TETRACHLORIDE	<	5.00 U 5.00 ug/l
CHLOROBENZENE	<	5.00 U 5.00 ug/l
CHLOROETHANE	<	10.0 U 10.0 ug/l
CHLOROFORM	<	77.8 5.00 ug/l
CHLOROMETHANE	<	10.0 U 10.0 ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-41
Sample ID: L12121002-09

Date Collected: 12/05/2012 1510
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		98 %	(74-140)	
Surr: BROMOFLUOROBENZENE		84 %	(77-133)	
Surr: TOLUENE-D8		87 %	(77-131)	

Wet Chemistry SM 2320B

Date/Time: 12/18/2012 1037	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	33.3	1.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 0700	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	3.74	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1848	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ABCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-41
Sample ID: L12121002-09

Date Collected: 12/05/2012 1510
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-31
Sample ID: L12121002-10

Date Collected: 12/05/2012 1605
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1434 Analyst: BDL Dilution: 1

MANGANESE, DISSOLVED	1.56		0.0100	mg/l
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Volatile Organics
SW846 8260B

Date/Time: 12/12/2012 2231 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-31
Sample ID: L12121002-10

Date Collected: 12/05/2012 1605
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		98 %	(74-140)	
Surr: BROMOFLUOROBENZENE		86 %	(77-133)	
Surr: TOLUENE-D8		88 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1045	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	120	2.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 0731	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	8.00	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 1916	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-31
Sample ID: L12121002-10

Date Collected: 12/05/2012 1605
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SWB46 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Certificate of Analysis

Client ID: DW-11
Sample ID: L12121002-11

Date Collected: 12/05/2012 1830
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1446 Analyst: BDL Dilution: 1

Parameter	Result	Qual	RDL	Units
MANGANESE, DISSOLVED	0.884		0.0100	mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/13/2012 0016 Analyst: JVB Dilution: 1

Parameter	Result	Qual	RDL	Units
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	79.0 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Certificate of Analysis

Client ID: DW-11
Sample ID: L12121002-11

Date Collected: 12/05/2012 1830
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		98 ‡	(74-140)	
Surr: BROMOFLUOROBENZENE		92 ‡	(77-133)	
Surr: TOLUENE-D8		93 ‡	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1052	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	34.3	1.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 0801	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	3.81	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 2209	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U
ORGANIC CARBON, TOTAL - LOW	<	1.00 U



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

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Certificate of Analysis

Client ID: DW-11
Sample ID: L12121002-11

Date Collected: 12/05/2012 1830
Date Received : 12/07/2012

Sample Comments: L12121002-11
8260B VOCs
Analysis exceeded the 7 day holding time.

Prep Procedure	Method	Analyst	Prep Date
METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

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Certificate of Analysis

Client ID: MW-201
Sample ID: L12121002-12

Date Collected: 12/05/2012 1900
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/13/2012 0228 Analyst: JVB Dilution: 1				
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

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Client ID: MW-201
Sample ID: L12121002-12

Date Collected: 12/05/2012 1900
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 %	(74-140)	
Surr: BROMOFLUOROBENZENE		92 %	(77-133)	
Surr: TOLUENE-D8		96 %	(77-131)	

Sample Comments: L12121002-12

8260B VOCs

Analysis exceeded the 7 day holding time.



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-99
Sample ID: L12121002-13

Date Collected: 12/06/2012 0900
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1454	Analyst: BDL	Dilution: 1		
MANGANESE, DISSOLVED	0.0350		0.0100	mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 0135	Analyst: JVB	Dilution: 1		
1,1,1-TRICHLOROETHANE	<	5.00	U	5.00 ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00 ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0 ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00 ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00 ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00 ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00 ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00 ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00 ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00 ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00 ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00 ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00 ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00 ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00 ug/l
2-BUTANONE	<	10.0	U	10.0 ug/l
2-HEXANONE	<	10.0	U	10.0 ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00 ug/l
ACETONE	<	10.0	U	10.0 ug/l
BENZENE	<	5.00	U	5.00 ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00 ug/l
BROMOFORM	<	5.00	U	5.00 ug/l
BROMOMETHANE	<	10.0	U	10.0 ug/l
CARBON DISULFIDE	<	5.00	U	5.00 ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00 ug/l
CHLOROBENZENE	<	5.00	U	5.00 ug/l
CHLOROETHANE	<	10.0	U	10.0 ug/l
CHLOROFORM	<	7.44		5.00 ug/l
CHLOROMETHANE	<	10.0	U	10.0 ug/l

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

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Certificate of Analysis

Client ID: MW-99
Sample ID: L12121002-13

Date Collected: 12/06/2012 0900
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	94.0		5.00	ug/l
CIS-1,3-DICHLOROPROPENE	< 5.00	U	5.00	ug/l
CYCLOHEXANE	< 5.00	U	5.00	ug/l
DIBROMOCHLOROMETHANE	< 5.00	U	5.00	ug/l
DICHLORODIFLUOROMETHANE	< 5.00	U	5.00	ug/l
ETHYLBENZENE	< 5.00	U	5.00	ug/l
ISOPROPYL BENZENE	< 5.00	U	5.00	ug/l
METHYL ACETATE	< 10.0	U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	< 5.00	U	5.00	ug/l
METHYLCYCLOHEXANE	< 5.00	U	5.00	ug/l
METHYLENE CHLORIDE	< 5.00	U	5.00	ug/l
STYRENE	< 5.00	U	5.00	ug/l
TETRACHLOROETHENE	163		5.00	ug/l
TOLUENE	< 5.00	U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	< 5.00	U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	< 5.00	U	5.00	ug/l
TRICHLOROETHENE	31.6		5.00	ug/l
TRICHLOROFUOROMETHANE	< 5.00	U	5.00	ug/l
VINYL ACETATE	< 10.0	U	10.0	ug/l
VINYL CHLORIDE	< 10.0	U	10.0	ug/l
XYLENE (TOTAL)	< 5.00	U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	99 ‡		(74-140)	
Surr: BROMOFLUOROBENZENE	91 ‡		(77-133)	
Surr: TOLUENE-D8	95 ‡		(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1124 Analyst: CDC Dilution: 1

ALKALINITY, TOTAL	3.59	1.00	mg/l
ENDPOINT PH	4.20		su

SW846 9056A

Date/Time: 12/13/2012 1545 Analyst: CDC Dilution: 1

CHLORIDE, TOTAL	1.87	1.00	mg/l
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SW846 9060A

Date/Time: 12/26/2012 2237 Analyst: CDC Dilution: 1

ORGANIC CARBON, TOTAL - AVG	< 1.00	U	1.00	mg/l
ORGANIC CARBON, TOTAL - HIGH	< 1.00	U	1.00	mg/l
ORGANIC CARBON, TOTAL - LOW	< 1.00	U	1.00	mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
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Certificate of Analysis

Client ID: MW-99
Sample ID: L12121002-13

Date Collected: 12/06/2012 0900
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-103
Sample ID: L12121002-14

Date Collected: 12/06/2012 1005
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1458 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED 0.0430 0.0100 mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/12/2012 2350 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-103
Sample ID: L12121002-14

Date Collected: 12/06/2012 1005
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	101 %		(74-140)	
Surr: BROMOFLUOROBENZENE	93 %		(77-133)	
Surr: TOLUENE-D8	96 %		(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1141	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	3.59	1.00 mg/l
ENDPOINT PH	4.20	su

SW846 9056A

Date/Time: 12/13/2012 1615	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	2.99	1.00 mg/l

SW846 9060A

Date/Time: 12/26/2012 2305	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	< 1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	< 1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	< 1.00 U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-103
Sample ID: L12121002-14

Date Collected: 12/06/2012 1005
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-202
Sample ID: L12121002-15

Date Collected: 12/06/2012 1050
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1502 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED < 0.0100 U 0.0100 mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 0254 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Client ID: MW-202
Sample ID: L12121002-15

Date Collected: 12/06/2012 1050
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 %	(74-140)	
Surr: BROMOFLUOROBENZENE		92 %	(77-133)	
Surr: TOLUENE-D8		95 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1147 Analyst: CDC Dilution: 1

ALKALINITY, TOTAL	1.03	1.00	mg/l
ENDPOINT PH	4.20		su

SW846 9056A

Date/Time: 12/13/2012 1646 Analyst: CDC Dilution: 1

CHLORIDE, TOTAL	<	1.00 U	1.00	mg/l
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SW846 9060A

Date/Time: 12/26/2012 2333 Analyst: CDC Dilution: 1

ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00	mg/l

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-202
Sample ID: L12121002-15

Date Collected: 12/06/2012 1050
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-52
Sample ID: L12121002-16

Date Collected: 12/06/2012 1110
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1506	Analyst: BDL	Dilution: 1			
MANGANESE, DISSOLVED	0.201		0.0100	mg/l	

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 0042	Analyst: JVB	Dilution: 1			
1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-52
Sample ID: L12121002-16

Date Collected: 12/06/2012 1110
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	44.1		5.00	ug/l
CIS-1,3-DICHLOROPROPENE	< 5.00	U	5.00	ug/l
CYCLOHEXANE	< 5.00	U	5.00	ug/l
DIBROMOCHLOROMETHANE	< 5.00	U	5.00	ug/l
DICHLORODIFLUOROMETHANE	< 5.00	U	5.00	ug/l
ETHYLBENZENE	< 5.00	U	5.00	ug/l
ISOPROPYL BENZENE	< 5.00	U	5.00	ug/l
METHYL ACETATE	< 10.0	U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	< 5.00	U	5.00	ug/l
METHYLCYCLOHEXANE	< 5.00	U	5.00	ug/l
METHYLENE CHLORIDE	< 5.00	U	5.00	ug/l
STYRENE	< 5.00	U	5.00	ug/l
TETRACHLOROETHENE	< 5.00	U	5.00	ug/l
TOLUENE	< 5.00	U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	< 5.00	U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	< 5.00	U	5.00	ug/l
TRICHLOROETHENE	< 5.00	U	5.00	ug/l
TRICHLOROFLUOROMETHANE	< 5.00	U	5.00	ug/l
VINYL ACETATE	< 10.0	U	10.0	ug/l
VINYL CHLORIDE	< 10.0	U	10.0	ug/l
XYLENE (TOTAL)	< 5.00	U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	99 %		(74-140)	
Surr: BROMOFLUOROBENZENE	92 %		(77-133)	
Surr: TOLUENE-D8	95 %		(77-131)	

Wet Chemistry SM 2320B

Date/Time: 12/18/2012 1153	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	52.3	1.00 mg/l
ENDPOINT PH	4.50	su

SN846 9056A

Date/Time: 12/13/2012 1716	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	3.09	1.00 mg/l

SN846 9060A

Date/Time: 12/27/2012 0000	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	< 1.00	U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	< 1.00	U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	< 1.00	U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-52
Sample ID: L12121002-16

Date Collected: 12/06/2012 1110
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures:			
METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-65
Sample ID: L12121002-17

Date Collected: 12/06/2012 1205
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals

SW846 6010C

Date/Time: 12/11/2012 1510 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED 1.80 0.0100 mg/l

Volatile Organics

SW846 8260B

Date/Time: 12/13/2012 0108 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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Certificate of Analysis

Client ID: RW-65
Sample ID: L12121002-17

Date Collected: 12/06/2012 1205
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		100 %	(74-140)	
Surr: BROMOFLUOROBENZENE		92 %	(77-133)	
Surr: TOLUENE-D8		94 %	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1159	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	107	2.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 1848	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	12.7	1.00 mg/l

SW846 9060A

Date/Time: 12/27/2012 0029	Analyst: CDC	Dilution: 1	
ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-65
Sample ID: L12121002-17

Date Collected: 12/06/2012 1205
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-107
Sample ID: L12121002-18

Date Collected: 12/06/2012 1255
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1514	Analyst: BDL	Dilution: 1		
MANGANESE, DISSOLVED	<	0.0100 U	0.0100	mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 0202	Analyst: JVB	Dilution: 1		
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	46.8	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-107
Sample ID: L12121002-18

Date Collected: 12/06/2012 1255
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4	101 %		(74-140)	
Surr: BROMOFLUOROBENZENE	95 %		(77-133)	
Surr: TOLUENE-D8	97 %		(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1340 Analyst: CDC Dilution: 1

ALKALINITY, TOTAL	25.1	1.00	mg/l
ENDPOINT PH	4.50		su

SW846 9056A

Date/Time: 12/13/2012 1918 Analyst: CDC Dilution: 1

CHLORIDE, TOTAL	2.16	1.00	mg/l
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SW846 9060A

Date/Time: 12/27/2012 0056 Analyst: CDC Dilution: 1

ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U	1.00	mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U	1.00	mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-107
Sample ID: L12121002-18

Date Collected: 12/06/2012 1255
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-37
Sample ID: L12121002-19

Date Collected: 12/06/2012 1355
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1518	Analyst: BDL	Dilution: 1			
MANGANESE, DISSOLVED	0.917		0.0100	mg/l	

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 1104	Analyst: JVB	Dilution: 1			
1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-37
Sample ID: L12121002-19

Date Collected: 12/06/2012 1355
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE		6.64	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		97 ‡	(74-140)	
Surr: BROMOFUOROENZENE		94 ‡	(77-133)	
Surr: TOLUENE-D8		97 ‡	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1408	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	26.7	1.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 1949	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	12.1	1.00 mg/l

SW846 9060A

Date/Time: 12/27/2012 0124	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	< 1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	< 1.00 U	1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	< 1.00 U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-37
Sample ID: L12121002-19

Date Collected: 12/06/2012 1355
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-53
Sample ID: L12121002-20

Date Collected: 12/06/2012 1500
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Trace Metals
SW846 6010C

Date/Time: 12/11/2012 1522 Analyst: BDL Dilution: 1
MANGANESE, DISSOLVED 1.45 0.0100 mg/l

Volatile Organics
SW846 8260B

Date/Time: 12/13/2012 1130 Analyst: JVB Dilution: 1

1,1,1-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00	U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0	U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00	U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00	U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00	U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00	U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00	U	5.00	ug/l
2-BUTANONE	<	10.0	U	10.0	ug/l
2-HEXANONE	<	10.0	U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00	U	5.00	ug/l
ACETONE	<	10.0	U	10.0	ug/l
BENZENE	<	5.00	U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00	U	5.00	ug/l
BROMOFORM	<	5.00	U	5.00	ug/l
BROMOMETHANE	<	10.0	U	10.0	ug/l
CARBON DISULFIDE	<	5.00	U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00	U	5.00	ug/l
CHLOROBENZENE	<	5.00	U	5.00	ug/l
CHLOROETHANE	<	10.0	U	10.0	ug/l
CHLOROFORM	<	5.00	U	5.00	ug/l
CHLOROMETHANE	<	10.0	U	10.0	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: EW-53
Sample ID: L12121002-20

Date Collected: 12/06/2012 1500
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		98 ‡	(74-140)	
Surr: BROMOFLUOROBENZENE		96 ‡	(77-133)	
Surr: TOLUENE-D8		99 ‡	(77-131)	

Wet Chemistry

SM 2320B

Date/Time: 12/18/2012 1418	Analyst: CDC	Dilution: 1
ALKALINITY, TOTAL	62.5	1.00 mg/l
ENDPOINT PH	4.50	su

SW846 9056A

Date/Time: 12/13/2012 2019	Analyst: CDC	Dilution: 1
CHLORIDE, TOTAL	10.5	1.00 mg/l

SW846 9060A

Date/Time: 12/27/2012 0152	Analyst: CDC	Dilution: 1
ORGANIC CARBON, TOTAL - AVG	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - HIGH	<	1.00 U 1.00 mg/l
ORGANIC CARBON, TOTAL - LOW	<	1.00 U 1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: RW-53
Sample ID: L12121002-20

Date Collected: 12/06/2012 1500
Date Received : 12/07/2012

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures: METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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Certificate of Analysis

Client ID: MW-200
Sample ID: L12121002-21

Date Collected: 12/05/2012 1400
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/13/2012 1156 Analyst: JVB Dilution: 1				
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l

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 1455 OLD ALABAMA RD.
 SUITE 170
 ROSWELL, GA 30076
 Contact : BRYON DAHLGREN

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Certificate of Analysis

Client ID: MW-200
 Sample ID: L12121002-21

Date Collected: 12/05/2012 1400
 Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		95 %	(74-140)	
Surr: BROMOFLUOROBENZENE		93 %	(77-133)	
Surr: TOLUENE-D8		95 %	(77-131)	

Sample Comments: L12121002-21
 8260B VOCs
 Analysis exceeded the 7 day holding time.



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
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SUITE 170
ROSWELL, GA 30076
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Certificate of Analysis

Client ID: MW-52
Sample ID: L12121002-22

Date Collected: 12/05/2012 1520
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/13/2012 1223	Analyst: JVB		Dilution: 1	
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l



LABORATORY ANALYSIS REPORT

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Certificate of Analysis

Client ID: MW-52
Sample ID: L12121002-22

Date Collected: 12/05/2012 1520
Date Received : 12/07/2012

Parameter	Result	Qual	RDL	Units
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		96 %	(74-140)	
Surr: BROMOFLUOROBENZENE		93 %	(77-133)	
Surr: TOLUENE-D8		96 %	(77-131)	

Sample Comments: L12121002-22
8260B VOCs

Analysis exceeded the 7 day holding time.

SC Certification Number: 24110001

Client : AECOM
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QC Summary Data



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QC Batch Report - Batch Sample List

WorkGroup : WG63865
Description: VO/8260/TCL

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Sample ID	Client ID	Run#	PREP Date Time	ANALYTICAL Date Time	Analyst	Dilution
L12121002-01	RW-29	1		12/12/2012 1901	JVB	1
L12121002-02	EW-49	1		12/12/2012 1928	JVB	1
L12121002-03	MW-109	1		12/12/2012 2257	JVB	5
L12121002-04	MW-105	1		12/12/2012 1954	JVB	1
L12121002-05	RW-108	1		12/12/2012 2020	JVB	1
L12121002-06	MW-106	1		12/12/2012 2046	JVB	1
L12121002-07	SW-12	1		12/12/2012 2113	JVB	1
L12121002-08	RW-48	1		12/12/2012 2139	JVB	1
L12121002-09	EW-41	1		12/12/2012 2205	JVB	1
L12121002-10	EW-31	1		12/12/2012 2231	JVB	1
L12121002-11	DW-11	1		12/13/2012 0016	JVB	1
L12121002-12	MW-201	1		12/13/2012 0228	JVB	1
L12121002-13	MW-99	1		12/13/2012 0135	JVB	1
L12121002-14	MW-103	1		12/12/2012 2350	JVB	1
L12121002-15	MW-202	1		12/13/2012 0254	JVB	1
L12121002-16	EW-52	1		12/13/2012 0042	JVB	1
L12121002-17	RW-65	1		12/13/2012 0108	JVB	1
L12121002-18	MW-107	1		12/13/2012 0202	JVB	1
MB63865:1	Method Blank	1		12/12/2012 1835	JVB	1
LCS63865:1	Laboratory Control Spike	1		12/13/2012 0346	JVB	1
LCS63865:1	LCS Duplicate	1		12/13/2012 0412	JVB	1



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
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QC Batch Report - Surrogates % Recovery

WorkGroup: WG63865

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

SampleNumber	MeasureDate	DCA	BFB	TOL
		74-140	77-133	77-131
L12121002-01	12/12/2012 1901	99	86	90
L12121002-02	12/12/2012 1928	101	89	92
L12121002-03	12/12/2012 2257	100	86	88
L12121002-04	12/12/2012 1954	100	88	91
L12121002-05	12/12/2012 2020	101	89	91
L12121002-06	12/12/2012 2046	100	88	92
L12121002-07	12/12/2012 2113	98	84	85
L12121002-08	12/12/2012 2139	100	84	88
L12121002-09	12/12/2012 2205	98	84	87
L12121002-10	12/12/2012 2231	98	86	88
L12121002-11	12/13/2012 0016	98	92	93
L12121002-12	12/13/2012 0228	100	92	96
L12121002-13	12/13/2012 0135	99	91	95
L12121002-14	12/12/2012 2350	101	93	96
L12121002-15	12/13/2012 0254	100	92	95
L12121002-16	12/13/2012 0042	99	92	95
L12121002-17	12/13/2012 0108	100	92	94
L12121002-18	12/13/2012 0202	101	95	97
MB63865:1	12/12/2012 1835	104	91	94
LCS63865:1	12/13/2012 0346	98	94	98
LCSD63865:1	12/13/2012 0412	98	92	94

DCA - 1,2-DICHLOROETHANE-D4

BFB - BROMOFLUOROBENZENE

TOL - TOLUENE-D8

SC Certification Number: 24110001

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QC Batch Report - Method Blanks

WorkGroup: WG63865
Blank : MB63865:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/12/2012 1835 Analyst: JVB Dilution: 1				
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	5.00 U	5.00	ug/l
CHLOROETHENE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l

SC Certification Number: 24110001

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Contact : BRYON DAHLGREN

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QC Batch Report - Method Blanks

WorkGroup: WG63865
Blank : MB63865:1

Parameter	Result	Qual	RDL	Units
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		104 %	(74-140)	
Surr: BROMOFLUOROBENZENE		91 %	(77-133)	
Surr: TOLUENE-D8		94 %	(77-131)	

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63865
LCS/LCSD : LCS63865:1
LCSD63865:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
1,1,1-TRICHLOROETHANE	50.00	44.33	ug/l	89	76-120
1,1,2,2-TETRACHLOROETHANE	50.00	45.10	ug/l	90	78-116
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	40.33	ug/l	81	65-125
1,1,2-TRICHLOROETHANE	50.00	45.52	ug/l	91	78-117
1,1-DICHLOROETHANE	50.00	44.73	ug/l	89	75-117
1,1-DICHLOROETHENE	50.00	43.76	ug/l	88	72-125
1,2,3-TRICHLOROENZENE	50.00	43.11	ug/l	86	75-113
1,2,4-TRICHLOROENZENE	50.00	42.08	ug/l	84	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	46.38	ug/l	93	77-122
1,2-DIBROMOETHANE	50.00	46.26	ug/l	93	80-116
1,2-DICHLOROENZENE	50.00	48.74	ug/l	97	76-110
1,2-DICHLOROETHANE	50.00	44.69	ug/l	89	75-121
1,2-DICHLOROPROPANE	50.00	45.34	ug/l	91	79-115
1,3-DICHLOROENZENE	50.00	46.89	ug/l	94	74-113
1,4-DICHLOROENZENE	50.00	41.49	ug/l	83	74-109
2-BUTANONE	50.00	50.64	ug/l	101	72-129
2-HEXANONE	50.00	51.24	ug/l	102	73-132
4-METHYL-2-PENTANONE	50.00	51.55	ug/l	103	75-131
ACETONE	50.00	59.73	ug/l	119	70-138
BENZENE	50.00	44.92	ug/l	90	77-116
BROMODICHLOROMETHANE	50.00	44.57	ug/l	89	79-120
BROMOFORM	50.00	44.78	ug/l	90	79-121
BROMOMETHANE	50.00	40.19	ug/l	80	67-122
CARBON DISULFIDE	50.00	41.02	ug/l	82	59-125
CARBON TETRACHLORIDE	50.00	43.09	ug/l	86	74-124
CHLOROENZENE	50.00	48.97	ug/l	98	75-113
CHLOROETHANE	50.00	41.47	ug/l	83	73-120
CHLOROFORM	50.00	44.02	ug/l	88	75-121
CHLOROMETHANE	50.00	44.56	ug/l	89	60-122
CIS-1,2-DICHLOROETHENE	50.00	42.34	ug/l	85	74-119
CIS-1,3-DICHLOROPROPENE	50.00	47.26	ug/l	95	83-126
CYCLOHEXANE	50.00	40.44	ug/l	81	60-123
DIBROMOCHLOROMETHANE	50.00	45.93	ug/l	92	779-121
DICHLORODIFLUOROMETHANE	50.00	39.30	ug/l	79	55-139
ETHYLBENZENE	50.00	43.34	ug/l	87	70-130
ISOPROPYL BENZENE	50.00	48.36	ug/l	97	74-113
METHYL ACETATE	50.00	47.95	ug/l	96	67-123
METHYL-TERT-BUTYL ETHER	50.00	45.16	ug/l	90	75-120



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63865
 LCS/LCSD : LCS63865:1
 LCSD63865:1

Matrix : GW/ChemW
 Prep Method :
 Analytical Method: SW846 8260B

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
METHYLCYCLOHEXANE	50.00	41.07	ug/l	82	62-123
METHYLENE CHLORIDE	50.00	43.19	ug/l	86	70-120
STYRENE	50.00	43.60	ug/l	87	78-113
TETRACHLOROETHENE	50.00	42.87	ug/l	86	70-120
TOLUENE	50.00	44.48	ug/l	89	75-116
TRANS-1,2-DICHLOROETHENE	50.00	41.75	ug/l	84	73-121
TRANS-1,3-DICHLOROPROPENE	50.00	42.37	ug/l	85	73-114
TRICHLOROETHENE	50.00	43.75	ug/l	88	75-119
TRICHLOROFLUOROMETHANE	50.00	44.39	ug/l	89	71-128
VINYL ACETATE	50.00	48.55	ug/l	97	65-142
VINYL CHLORIDE	50.00	41.23	ug/l	82	64-122
XYLENE (TOTAL)	150.0	140.1	ug/l	93	73-116

Parameter	Spike Added	LCSD Conc	Units	LCSD %REC	Limits %REC	LCSD %REC	Limits %REC
1,1,1-TRICHLOROETHANE	50.00	47.32	ug/l	95	7	16	76-120
1,1,2,2-TETRACHLOROETHANE	50.00	49.64	ug/l	99	10	18	78-116
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	43.61	ug/l	87	8	18	65-125
1,1,2-TRICHLOROETHANE	50.00	49.14	ug/l	98	8	14	78-117
1,1-DICHLOROETHANE	50.00	47.85	ug/l	96	7	15	75-117
1,1-DICHLOROETHENE	50.00	46.57	ug/l	93	6	16	72-125
1,2,3-TRICHLOROBENZENE	50.00	45.71	ug/l	91	6	20	75-113
1,2,4-TRICHLOROBENZENE	50.00	45.27	ug/l	91	7	18	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	49.97	ug/l	100	7	20	77-122
1,2-DIBROMOETHANE	50.00	49.53	ug/l	99	7	16	80-116
1,2-DICHLOROBENZENE	50.00	50.86	ug/l	102	4	15	76-110
1,2-DICHLOROETHANE	50.00	48.75	ug/l	98	9	16	75-121
1,2-DICHLOROPROPANE	50.00	48.36	ug/l	97	6	15	79-115
1,3-DICHLOROBENZENE	50.00	50.10	ug/l	100	7	17	74-113
1,4-DICHLOROBENZENE	50.00	43.66	ug/l	87	5	16	74-109
2-BUTANONE	50.00	50.73	ug/l	101	0	20	72-129
2-HEXANONE	50.00	51.69	ug/l	103	1	20	73-132
4-METHYL-2-PENTANONE	50.00	51.41	ug/l	103	0	19	75-131
ACETONE	50.00	59.17	ug/l	118	1	23	70-138
BENZENE	50.00	47.86	ug/l	96	6	15	77-116
BROMODICHLOROMETHANE	50.00	49.62	ug/l	99	11	16	79-120
BROMOFORM	50.00	50.33	ug/l	101	12	17	79-121
BROMOMETHANE	50.00	43.78	ug/l	88	9	22	67-122



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63865
LCS/LCSD : LCS63865:1
LCS63865:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	LCSD Conc	Units	LCSD %REC	%RPD	Limits	
						%RPD	%REC
CARBON DISULFIDE	50.00	40.43	ug/l	81	1	21	59-125
CARBON TETRACHLORIDE	50.00	46.30	ug/l	93	7	18	74-124
CHLOROBENZENE	50.00	52.21	ug/l	104	6	15	75-113
CHLOROETHANE	50.00	44.85	ug/l	90	8	17	73-120
CHLOROFORM	50.00	47.96	ug/l	96	9	14	75-121
CHLOROMETHANE	50.00	47.71	ug/l	95	7	18	60-122
CIS-1,2-DICHLOROETHENE	50.00	46.05	ug/l	92	8	15	74-119
CIS-1,3-DICHLOROPROPENE	50.00	50.38	ug/l	101	6	16	83-126
CYCLOHEXANE	50.00	42.86	ug/l	86	6	17	60-123
DIBROMOCHLOROMETHANE	50.00	50.07	ug/l	100	9	16	779-121
DICHLORODIFLUOROMETHANE	50.00	41.03	ug/l	82	4	20	55-139
ETHYLBENZENE	50.00	45.59	ug/l	91	5	20	70-130
ISOPROPYL BENZENE	50.00	49.96	ug/l	100	3	17	74-113
METHYL ACETATE	50.00	51.37	ug/l	103	7	19	67-123
METHYL-TERT-BUTYL ETHER	50.00	49.43	ug/l	99	9	16	75-120
METHYLCYCLOHEXANE	50.00	43.19	ug/l	86	5	16	62-123
METHYLENE CHLORIDE	50.00	47.67	ug/l	95	10	17	70-120
STYRENE	50.00	46.61	ug/l	93	7	17	78-113
TETRACHLOROETHENE	50.00	44.23	ug/l	88	3	16	70-120
TOLUENE	50.00	46.51	ug/l	93	4	15	75-116
TRANS-1,2-DICHLOROETHENE	50.00	44.26	ug/l	89	6	16	73-121
TRANS-1,3-DICHLOROPROPENE	50.00	45.62	ug/l	91	7	16	73-114
TRICHLOROETHENE	50.00	46.31	ug/l	93	6	15	75-119
TRICHLOROFLUOROMETHANE	50.00	48.26	ug/l	97	8	18	71-128
VINYL ACETATE	50.00	50.25	ug/l	101	3	19	65-142
VINYL CHLORIDE	50.00	44.10	ug/l	88	7	16	64-122
XYLENE (TOTAL)	150.0	147.0	ug/l	98	5	17	73-116



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
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QC Batch Report - Batch Sample List

WorkGroup : WG63907
Description: VO/8260/TCL

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L12121002-06	MW-106	2		12/13/2012 1645	JVB	2
L12121002-19	EW-37	1		12/13/2012 1104	JVB	1
L12121002-20	EW-53	1		12/13/2012 1130	JVB	1
L12121002-21	MW-200	1		12/13/2012 1156	JVB	1
L12121002-22	MW-52	1		12/13/2012 1223	JVB	1
MB63907:1	Method Blank	1		12/13/2012 1033	JVB	1
MB63907:2	Method Blank	1		12/14/2012 0927	PAP	1
LCS63907:1	Laboratory Control Spike	1		12/13/2012 1921	JVB	1
LCS63907:2	Laboratory Control Spike	1		12/14/2012 1630	PAP	1
MS12121002-19:63907	Matrix Spike	1		12/13/2012 1737	JVB	1
MSD12121002-19:63907	Matrix Spike Duplicate	1		12/13/2012 1803	JVB	1



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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QC Batch Report - Surrogates % Recovery

WorkGroup: WG63907

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

SampleNumber	MeasureDate	DCA	BFB	TOL
		74-140	77-133	77-131
L12121002-06	12/13/2012 1645	94	91	94
L12121002-19	12/13/2012 1104	97	94	97
L12121002-20	12/13/2012 1130	98	96	99
L12121002-21	12/13/2012 1156	95	93	95
L12121002-22	12/13/2012 1223	96	93	96
MB63907:1	12/13/2012 1033	99	98	100
MB63907:2	12/14/2012 0927	108		
LCS63907:1	12/13/2012 1921	95	92	95
LCS63907:2	12/14/2012 1630	116		
MS12121002-19:63907	12/13/2012 1737	95	91	92
MSD12121002-19:63907	12/13/2012 1803	96	93	95

DCA - 1,2-DICHLOROETHANE-D4
BFB - BROMOFLUOROBENZENE
TOL - TOLUENE-D8



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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QC Batch Report - Method Blanks

WorkGroup: WG63907
Blank : MB63907:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/13/2012 1033 Analyst: JVB Dilution: 1				
1,1,1-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2,2-TETRACHLOROETHANE	<	5.00 U	5.00	ug/l
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<	10.0 U	10.0	ug/l
1,1,2-TRICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,1-DICHLOROETHENE	<	5.00 U	5.00	ug/l
1,2,3-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2,4-TRICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DIBROMO-3-CHLOROPROPANE	<	5.00 U	5.00	ug/l
1,2-DIBROMOETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,2-DICHLOROETHANE	<	5.00 U	5.00	ug/l
1,2-DICHLOROPROPANE	<	5.00 U	5.00	ug/l
1,3-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
1,4-DICHLOROBENZENE	<	5.00 U	5.00	ug/l
2-BUTANONE	<	10.0 U	10.0	ug/l
2-HEXANONE	<	10.0 U	10.0	ug/l
4-METHYL-2-PENTANONE	<	5.00 U	5.00	ug/l
ACETONE	<	10.0 U	10.0	ug/l
BENZENE	<	5.00 U	5.00	ug/l
BROMODICHLOROMETHANE	<	5.00 U	5.00	ug/l
BROMOFORM	<	5.00 U	5.00	ug/l
BROMOMETHANE	<	10.0 U	10.0	ug/l
CARBON DISULFIDE	<	5.00 U	5.00	ug/l
CARBON TETRACHLORIDE	<	5.00 U	5.00	ug/l
CHLOROBENZENE	<	5.00 U	5.00	ug/l
CHLOROETHANE	<	10.0 U	10.0	ug/l
CHLOROFORM	<	5.00 U	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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QC Batch Report - Method Blanks

WorkGroup: WG63907
Blank : MB63907:1

Parameter	Result	Qual	RDL	Units
CIS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
CYCLOHEXANE	<	5.00 U	5.00	ug/l
DIBROMOCHLOROMETHANE	<	5.00 U	5.00	ug/l
DICHLORODIFLUOROMETHANE	<	5.00 U	5.00	ug/l
ETHYLBENZENE	<	5.00 U	5.00	ug/l
ISOPROPYL BENZENE	<	5.00 U	5.00	ug/l
METHYL ACETATE	<	10.0 U	10.0	ug/l
METHYL-TERT-BUTYL ETHER	<	5.00 U	5.00	ug/l
METHYLCYCLOHEXANE	<	5.00 U	5.00	ug/l
METHYLENE CHLORIDE	<	5.00 U	5.00	ug/l
STYRENE	<	5.00 U	5.00	ug/l
TETRACHLOROETHENE	<	5.00 U	5.00	ug/l
TOLUENE	<	5.00 U	5.00	ug/l
TRANS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l
TRANS-1,3-DICHLOROPROPENE	<	5.00 U	5.00	ug/l
TRICHLOROETHENE	<	5.00 U	5.00	ug/l
TRICHLOROFLUOROMETHANE	<	5.00 U	5.00	ug/l
VINYL ACETATE	<	10.0 U	10.0	ug/l
VINYL CHLORIDE	<	10.0 U	10.0	ug/l
XYLENE (TOTAL)	<	5.00 U	5.00	ug/l
Surr: 1,2-DICHLOROETHANE-D4		99 ‡	(74-140)	
Surr: BROMOFLUOROBENZENE		98 ‡	(77-133)	
Surr: TOLUENE-D8		100 ‡	(77-131)	



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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QC Batch Report - Method Blanks

WorkGroup: WG63907
Blank : MB63907:2

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 12/14/2012 0927 Analyst: PAP Dilution: 1				
CHLOROFORM	<	5.00 U	5.00	ug/l
Surf: 1,2-DICHLOROETHANE-D4		108 *	(74-140)	

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
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QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63907
MS/MSD : MS12121002-19:63907
MSD12121002-19:63907

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
1,1,1-TRICHLOROETHANE	50.00	< 5.00	47.88	ug/l	96	75-121
1,1,1,2,2-TETRACHLOROETHANE	50.00	< 5.00	49.54	ug/l	99	78-114
1,1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	< 10.00	45.13	ug/l	90	64-130
1,1,2-TRICHLOROETHANE	50.00	< 5.00	48.92	ug/l	98	78-113
1,1-DICHLOROETHANE	50.00	< 5.00	47.77	ug/l	96	76-116
1,1-DICHLOROETHENE	50.00	< 5.00	46.53	ug/l	93	71-127
1,2,3-TRICHLOROBENZENE	50.00	< 5.00	44.82	ug/l	90	75-112
1,2,4-TRICHLOROBENZENE	50.00	< 5.00	44.71	ug/l	89	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	< 5.00	46.99	ug/l	94	73-124
1,2-DIBROMOETHANE	50.00	< 5.00	48.97	ug/l	98	79-114
1,2-DICHLOROBENZENE	50.00	< 5.00	51.45	ug/l	103	76-109
1,2-DICHLOROETHANE	50.00	< 5.00	48.41	ug/l	97	74-122
1,2-DICHLOROPROPANE	50.00	< 5.00	48.31	ug/l	97	79-113
1,3-DICHLOROBENZENE	50.00	< 5.00	50.82	ug/l	102	69-118
1,4-DICHLOROBENZENE	50.00	< 5.00	43.74	ug/l	87	74-108
2-BUTANONE	50.00	< 10.00	48.89	ug/l	98	68-134
2-HEXANONE	50.00	< 10.00	49.76	ug/l	100	70-133
4-METHYL-2-PENTANONE	50.00	< 5.00	50.82	ug/l	102	69-135
ACETONE	50.00	< 10.00	55.59	ug/l	111	64-149
BENZENE	50.00	< 5.00	47.70	ug/l	95	77-114
BROMODICHLOROMETHANE	50.00	< 5.00	48.78	ug/l	98	76-123
BROMOFORM	50.00	< 5.00	48.77	ug/l	98	74-124
BROMOMETHANE	50.00	< 10.00	40.78	ug/l	82	64-121
CARBON DISULFIDE	50.00	< 5.00	37.03	ug/l	74	59-124
CARBON TETRACHLORIDE	50.00	< 5.00	46.84	ug/l	94	72-126
CHLOROBENZENE	50.00	< 5.00	52.83	ug/l	106	74-113
CHLOROETHANE	50.00	< 10.00	43.54	ug/l	87	71-121
CHLOROFORM	50.00	< 5.00	48.07	ug/l	96	76-119
CHLOROMETHANE	50.00	< 10.00	46.59	ug/l	93	59-123
CIS-1,2-DICHLOROETHENE	50.00	< 5.00	48.49	ug/l	97	74-118
CIS-1,3-DICHLOROPROPENE	50.00	< 5.00	51.06	ug/l	102	83-125
CYCLOHEXANE	50.00	< 5.00	44.46	ug/l	89	59-126
DIBROMOCHLOROMETHANE	50.00	< 5.00	49.70	ug/l	99	77-121
DICHLORODIFLUOROMETHANE	50.00	< 5.00	43.20	ug/l	86	53-141
ETHYLBENZENE	50.00	< 5.00	46.87	ug/l	94	70-130
ISOPROPYL BENZENE	50.00	< 5.00	52.09	ug/l	104	74-114
METHYL ACETATE	50.00	< 10.00	50.16	ug/l	100	68-122
METHYL-TERT-BUTYL ETHER	50.00	< 5.00	48.55	ug/l	97	74-119



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
 1455 OLD ALABAMA RD.
 SUITE 170
 ROSWELL, GA 30076
 Contact : BRYON DAHLGREN

Project Number: 61576.07
 Report Date : January 03, 2013
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QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63907
 MS/MSD : MS12121002-19:63907
 MSD12121002-19:63907

Matrix : GW/ChemW
 Prep Method :
 Analytical Method: SW846 8260B

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limit %REC
METHYLCYCLOHEXANE	50.00	< 5.00	45.08	ug/l	90	61-126
METHYLENE CHLORIDE	50.00	< 5.00	46.19	ug/l	92	71-115
STYRENE	50.00	< 5.00	47.52	ug/l	95	75-116
TETRACHLOROETHENE	50.00	6.64	52.44	ug/l	92	69-121
TOLUENE	50.00	< 5.00	47.19	ug/l	94	74-115
TRANS-1,2-DICHLOROETHENE	50.00	< 5.00	43.52	ug/l	87	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	< 5.00	45.96	ug/l	92	73-112
TRICHLOROETHENE	50.00	< 5.00	47.11	ug/l	94	74-120
TRICHLOROFLUOROMETHANE	50.00	< 5.00	49.06	ug/l	98	70-134
VINYL ACETATE	50.00	< 10.00	50.29	ug/l	101	59-146
VINYL CHLORIDE	50.00	< 10.00	43.05	ug/l	86	63-124
XYLENE (TOTAL)	150.0	< 5.00	152.1	ug/l	101	73-116

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	MSD %RPD	Limit %RPD	Limit %REC
1,1,1-TRICHLOROETHANE	50.00	48.56	ug/l	97	1	16	75-121
1,1,2,2-TETRACHLOROETHANE	50.00	49.86	ug/l	100	1	18	78-114
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	46.82	ug/l	94	4	18	64-130
1,1,2-TRICHLOROETHANE	50.00	49.62	ug/l	99	1	14	78-113
1,1-DICHLOROETHANE	50.00	48.47	ug/l	97	1	15	76-116
1,1-DICHLOROETHENE	50.00	47.14	ug/l	94	1	16	71-127
1,2,3-TRICHLOROBENZENE	50.00	47.55	ug/l	95	6	20	75-112
1,2,4-TRICHLOROBENZENE	50.00	46.98	ug/l	94	5	18	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	51.19	ug/l	102	9	20	73-124
1,2-DIBROMOETHANE	50.00	49.84	ug/l	100	2	16	79-114
1,2-DICHLOROBENZENE	50.00	52.50	ug/l	105	2	15	76-109
1,2-DICHLOROETHANE	50.00	48.68	ug/l	97	1	16	74-122
1,2-DICHLOROPROPANE	50.00	49.24	ug/l	98	2	15	79-113
1,3-DICHLOROBENZENE	50.00	52.30	ug/l	105	3	17	69-118
1,4-DICHLOROBENZENE	50.00	45.91	ug/l	92	5	16	74-108
2-BUTANONE	50.00	51.12	ug/l	102	4	20	68-134
2-HEXANONE	50.00	52.63	ug/l	105	6	20	70-133
4-METHYL-2-PENTANONE	50.00	52.04	ug/l	104	2	19	69-135
ACETONE	50.00	58.85	ug/l	118	6	23	64-149
BENZENE	50.00	48.45	ug/l	97	2	15	77-114
BROMODICHLOROMETHANE	50.00	49.54	ug/l	99	2	16	76-123
BROMOFORM	50.00	49.52	ug/l	99	2	17	74-124
BROMOMETHANE	50.00	44.66	ug/l	89	9	22	64-121

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
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QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63907
MS/MSD : MS12121002-19:63907
MSD12121002-19:63907

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	MSD Conc	Units	MSD %RBC	%RPD	Limits	
						%RPD	%RBC
CARBON DISULFIDE	50.00	39.93	ug/l	80	8	21	59-124
CARBON TETRACHLORIDE	50.00	48.37	ug/l	97	3	18	72-126
CHLOROBENZENE	50.00	53.82	ug/l	108	2	15	74-113
CHLOROETHANE	50.00	45.10	ug/l	90	4	17	71-121
CHLOROFORM	50.00	48.32	ug/l	97	1	14	76-119
CHLOROMETHANE	50.00	46.74	ug/l	93	0	18	59-123
CIS-1,2-DICHLOROETHENE	50.00	49.27	ug/l	99	2	15	74-118
CIS-1,3-DICHLOROPROPENE	50.00	52.78	ug/l	106	3	16	83-125
CYCLOHEXANE	50.00	45.44	ug/l	91	2	17	59-126
DIBROMOCHLOROMETHANE	50.00	50.99	ug/l	102	3	16	77-121
DICHLORODIFLUOROMETHANE	50.00	43.56	ug/l	87	1	20	53-141
ETHYLBENZENE	50.00	47.78	ug/l	96	2	20	70-130
ISOPROPYL BENZENE	50.00	53.67	ug/l	107	3	17	74-114
METHYL ACETATE	50.00	51.29	ug/l	103	2	19	68-122
METHYL-TERT-BUTYL ETHER	50.00	49.25	ug/l	99	1	16	74-119
METHYLCYCLOHEXANE	50.00	46.80	ug/l	94	4	16	61-126
METHYLENE CHLORIDE	50.00	46.56	ug/l	93	1	17	71-115
STYRENE	50.00	48.25	ug/l	97	2	17	75-116
TETRACHLOROETHENE	50.00	54.48	ug/l	96	4	16	69-121
TOLUENE	50.00	48.42	ug/l	97	3	15	74-115
TRANS-1,2-DICHLOROETHENE	50.00	44.90	ug/l	90	3	16	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	46.98	ug/l	94	2	16	73-112
TRICHLOROETHENE	50.00	49.26	ug/l	99	4	15	74-120
TRICHLOROFLUOROMETHANE	50.00	50.02	ug/l	100	2	18	70-134
VINYL ACETATE	50.00	51.58	ug/l	103	3	19	59-146
VINYL CHLORIDE	50.00	43.54	ug/l	87	1	16	63-124
XYLENE (TOTAL)	150.0	154.6	ug/l	103	2	17	73-116

NOTE: MS/MSD % recoveries are not evaluated if the sample concentration is greater than four times the spike added.

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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63907
LCS : LCS63907:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	LCB Conc	Units	LCS %REC	Limits %REC
1,1,1-TRICHLOROETHANE	50.00	48.61	ug/l	97	76-120
1,1,2,2-TETRACHLOROETHANE	50.00	49.71	ug/l	99	78-116
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	45.04	ug/l	90	65-125
1,1,2-TRICHLOROETHANE	50.00	48.95	ug/l	98	78-117
1,1-DICHLOROETHANE	50.00	48.18	ug/l	96	75-117
1,1-DICHLOROETHENE	50.00	46.90	ug/l	94	72-125
1,2,3-TRICHLOROBENZENE	50.00	46.88	ug/l	94	75-113
1,2,4-TRICHLOROBENZENE	50.00	46.83	ug/l	94	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	49.83	ug/l	100	77-122
1,2-DIBROMOETHANE	50.00	49.30	ug/l	99	80-116
1,2-DICHLOROBENZENE	50.00	53.43	ug/l	107	76-110
1,2-DICHLOROETHANE	50.00	48.80	ug/l	98	75-121
1,2-DICHLOROPROPANE	50.00	48.53	ug/l	97	79-115
1,3-DICHLOROBENZENE	50.00	53.18	ug/l	106	74-113
1,4-DICHLOROBENZENE	50.00	46.20	ug/l	92	74-109
2-BUTANONE	50.00	52.16	ug/l	104	72-129
2-HEXANONE	50.00	52.65	ug/l	105	73-132
4-METHYL-2-PENTANONE	50.00	53.52	ug/l	107	75-131
ACETONE	50.00	59.68	ug/l	119	70-138
BENZENE	50.00	47.97	ug/l	96	77-116
BROMODICHLOROMETHANE	50.00	49.06	ug/l	98	79-120
BROMOFORM	50.00	50.34	ug/l	101	79-121
BROMOMETHANE	50.00	43.89	ug/l	88	67-122
CARBON DISULFIDE	50.00	39.93	ug/l	80	59-125
CARBON TETRACHLORIDE	50.00	47.73	ug/l	95	74-124
CHLOROBENZENE	50.00	53.67	ug/l	107	75-113
CHLOROETHANE	50.00	44.18	ug/l	88	73-120
CHLOROFORM	50.00	48.43	ug/l	97	75-121
CHLOROMETHANE	50.00	46.11	ug/l	92	60-122
CIS-1,2-DICHLOROETHENE	50.00	46.51	ug/l	93	74-119
CIS-1,3-DICHLOROPROPENE	50.00	51.69	ug/l	103	83-126
CYCLOHEXANE	50.00	44.20	ug/l	88	60-123
DIBROMOCHLOROMETHANE	50.00	49.51	ug/l	99	779-121
DICHLORODIFLUOROMETHANE	50.00	41.91	ug/l	84	55-139
ETHYLBENZENE	50.00	48.06	ug/l	96	70-130
ISOPROPYL BENZENE	50.00	53.69	ug/l	107	74-113
METHYL ACETATE	50.00	51.41	ug/l	103	67-123
METHYL-TERT-BUTYL ETHER	50.00	49.34	ug/l	99	75-120

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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63907
LCS : LCS63907:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
METHYLCYCLOHEXANE	50.00	44.76	ug/l	90	62-123
METHYLENE CHLORIDE	50.00	46.55	ug/l	93	70-120
STYRENE	50.00	48.71	ug/l	97	78-113
TETRACHLOROETHENE	50.00	47.40	ug/l	95	70-120
TOLUENE	50.00	47.93	ug/l	96	75-116
TRANS-1,2-DICHLOROETHENE	50.00	45.02	ug/l	90	73-121
TRANS-1,3-DICHLOROPROPENE	50.00	46.52	ug/l	93	73-114
TRICHLOROETHENE	50.00	47.70	ug/l	95	75-119
TRICHLOROFLUOROMETHANE	50.00	49.13	ug/l	98	71-128
VINYL ACETATE	50.00	50.07	ug/l	100	65-142
VINYL CHLORIDE	50.00	43.32	ug/l	87	64-122
XYLENE (TOTAL)	150.0	155.2	ug/l	103	73-116



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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63907
LCS : LCS63907:2

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 8260B

Parameter	Spike Added	LCS Cond	Units	LCS %REC	Limits %REC
CHLOROFORM	50.00	56.64	ug/l	113	75-121



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QC Batch Report - Batch Sample List

WorkGroup : WG63881
Description: 3010A (5)

Matrix : GW/ChemW
Prep Method : SW846 3010A
Analytical Method: SW846 6010C

Sample ID	Client ID	Run#	PREP		ANALYTICAL		Analyst	Dilution
			Date	Time	Date	Time		
L12121002-01	RW-29	1	12/10/2012	1230	12/11/2012	1402	BDL	1
L12121002-02	EW-49	1	12/10/2012	1230	12/11/2012	1406	BDL	1
L12121002-03	MW-109	1	12/10/2012	1230	12/11/2012	1410	BDL	1
L12121002-04	MW-105	1	12/10/2012	1230	12/11/2012	1414	BDL	1
L12121002-05	RW-108	1	12/10/2012	1230	12/11/2012	1418	BDL	1
L12121002-06	MW-106	1	12/10/2012	1230	12/11/2012	1422	BDL	1
L12121002-08	RW-48	1	12/10/2012	1230	12/11/2012	1426	BDL	1
L12121002-09	EW-41	1	12/10/2012	1230	12/11/2012	1430	BDL	1
L12121002-10	EW-31	1	12/10/2012	1230	12/11/2012	1434	BDL	1
L12121002-11	DW-11	1	12/10/2012	1230	12/11/2012	1446	BDL	1
L12121002-13	MW-99	1	12/10/2012	1230	12/11/2012	1454	BDL	1
L12121002-14	MW-103	1	12/10/2012	1230	12/11/2012	1458	BDL	1
L12121002-15	MW-202	1	12/10/2012	1230	12/11/2012	1502	BDL	1
L12121002-16	EW-52	1	12/10/2012	1230	12/11/2012	1506	BDL	1
L12121002-17	RW-65	1	12/10/2012	1230	12/11/2012	1510	BDL	1
L12121002-18	MW-107	1	12/10/2012	1230	12/11/2012	1514	BDL	1
L12121002-19	EW-37	1	12/10/2012	1230	12/11/2012	1518	BDL	1
L12121002-20	EW-53	1	12/10/2012	1230	12/11/2012	1522	BDL	1
D12121002-11:63881	Duplicate	1	12/10/2012	1230	12/11/2012	1450	BDL	1
MB63881:1	Method Blank	1	12/10/2012	1230	12/11/2012	1346	BDL	1
LCS63881:1	Laboratory Control Spike	1	12/10/2012	1230	12/11/2012	1358	BDL	1
MS12121002-20:63881	Matrix Spike	1	12/10/2012	1230	12/11/2012	1534	BDL	1
MSD12121002-20:63881	Matrix Spike Duplicate	1	12/10/2012	1230	12/11/2012	1538	BDL	1



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QC Batch Report - Method Blanks

WorkGroup: WG63881
Blank : MB63881:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Trace Metals				
SW846 6010C				
Date/Time: 12/11/2012 1346 Analyst: BDL Dilution: 1				
MANGANESE, DISSOLVED	<	0.0100	U	0.0100 mg/l

Prep Procedure	Method	Analyst	Prep Date
Analytical Prep Procedures:			
METALS PREP ICP	SW846 3010A	BDL	12/10/2012 1230



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QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63881
MS/MSD : MS12121002-20:63881
MSD12121002-20:63881

Matrix : GW/ChemW
Prep Method : SW846 3010A
Analytical Method: SW846 6010C

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
MANGANESE, DISSOLVED	0.100	1.45	1.55	mg/l	100	82-114

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	%REP	Limits %RPD	%REC
MANGANESE, DISSOLVED	0.100	1.54	mg/l	90	1	10	82-114

NOTE: MS/MSD % recoveries are not evaluated if the sample concentration is greater than four times the spike added.



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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63881
LCS : LCS63881:1

Matrix : GW/ChemW
Prep Method : SW846 3010A
Analytical Method: SW846 6010C

Parameter	Spike Added	LCS Conc	Units	LCS REC	Limits REC
MANGANESE, DISSOLVED	0.200	0.192	mg/l	96	90-110



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QC Batch Report - Sample Duplicates

WorkGroup: WG63881
Duplicate: D12121002-11:63881

Matrix : GW/ChemW
Prep Method : SW846 3010A
Analytical Method: SW846 6010C

Parameter	Sample Conc	DUP Conc	RDL	Units	%RPD	RPD
MANGANESE, DISSOLVED	0.884	0.894	0.0100	mg/l	1	10

NOTE: Calculation of %RPD is not required for concentrations less than 10X the RDL.



LABORATORY ANALYSIS REPORT

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QC Batch Report - Batch Sample List

WorkGroup : WG64020
Description: Total Alkalinity

Matrix : GW/ChemW
Prep Method :
Analytical Method: SM 2320B

Sample ID	Client ID	Run#	PREP Date Time	ANALYTICAL Date Time	Analyst	Dilution
L12121002-01	RW-29	1		12/18/2012 0922	CDC	1
L12121002-02	EW-49	1		12/18/2012 0926	CDC	1
L12121002-03	MW-109	1		12/18/2012 0935	CDC	1
L12121002-04	MW-105	1		12/18/2012 0941	CDC	1
L12121002-05	RW-108	1		12/18/2012 0947	CDC	1
L12121002-06	MW-106	1		12/18/2012 1023	CDC	1
L12121002-08	RW-48	1		12/18/2012 1030	CDC	1
L12121002-09	EW-41	1		12/18/2012 1037	CDC	1
L12121002-10	EW-31	1		12/18/2012 1045	CDC	1
L12121002-11	DW-11	1		12/18/2012 1052	CDC	1
L12121002-13	MW-99	1		12/18/2012 1124	CDC	1
L12121002-14	MW-103	1		12/18/2012 1141	CDC	1
L12121002-15	MW-202	1		12/18/2012 1147	CDC	1
L12121002-16	EW-52	1		12/18/2012 1153	CDC	1
L12121002-17	RW-65	1		12/18/2012 1159	CDC	1
L12121002-18	MW-107	1		12/18/2012 1340	CDC	1
L12121002-19	EW-37	1		12/18/2012 1408	CDC	1
L12121002-20	EW-53	1		12/18/2012 1418	CDC	1
D12121002-11:64020	Duplicate	1		12/18/2012 1056	CDC	1
D12121002-20:64020	Duplicate	1		12/18/2012 1423	CDC	1
MB64020:1	Method Blank	1		12/18/2012 0850	CDC	1
LCS64020:1	Laboratory Control Spike	1		12/18/2012 0901	CDC	1



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QC Batch Report - Method Blanks

WorkGroup: WG64020
Blank : MB64020:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SM 2320B				
Date/Time: 12/18/2012 0850 Analyst: CDC Dilution: 1				
ALKALINITY, TOTAL	< 1.00	U	1.00	mg/l
ENDPOINT PH	4.20			su



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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64020
LCS : LCS64020:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SM 2320B

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limit %REC
ALKALINITY, TOTAL	1000	1035	mg/l	104	90-110



LABORATORY ANALYSIS REPORT

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QC Batch Report - Sample Duplicates

WorkGroup: WG64020
Duplicate: D12121002-11:64020

Matrix : GW/ChemW
Prep Method :
Analytical Method: SM 2320B

Parameter	Sample Conc	DUP Conc	RDL	Units	%RPD	RPD
ALKALINITY, TOTAL	34.34	34.34	1.00	mg/l	0	10

NOTE: Calculation of %RPD is not required for concentrations less than 10X the RDL.



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QC Batch Report - Sample Duplicates

WorkGroup: WG64020
Duplicate: D12121002-20:64020

Matrix : GW/ChemW
Prep Method :
Analytical Method: SM 2320B

Parameter	Sample Conc	DUP Conc	RDL	Units	%RPD	RPD
ALKALINITY, TOTAL	62.53	63.55	1.00	mg/l	2	10

NOTE: Calculation of %RPD is not required for concentrations less than 10X the RDL.

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QC Batch Report - Batch Sample List

WorkGroup : WG63894
 Description: IC-GW

Matrix : GW/ChemW
 Prep Method :
 Analytical Method: SW846 9056A

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L12121002-01	RW-29	1		12/13/2012 0225	CDC	1
L12121002-02	EW-49	1		12/13/2012 0357	CDC	1
L12121002-03	MW-109	1		12/13/2012 0428	CDC	1
L12121002-04	MW-105	1		12/13/2012 0458	CDC	1
L12121002-05	RW-108	1		12/13/2012 0529	CDC	1
L12121002-06	MW-106	1		12/13/2012 0559	CDC	1
L12121002-08	RW-48	1		12/13/2012 0630	CDC	1
L12121002-09	EW-41	1		12/13/2012 0700	CDC	1
L12121002-10	EW-31	1		12/13/2012 0731	CDC	1
L12121002-11	DW-11	1		12/13/2012 0801	CDC	1
L12121002-13	MW-99	1		12/13/2012 1545	CDC	1
L12121002-14	MW-103	1		12/13/2012 1615	CDC	1
L12121002-15	MW-202	1		12/13/2012 1646	CDC	1
L12121002-16	EW-52	1		12/13/2012 1716	CDC	1
L12121002-17	RW-65	1		12/13/2012 1848	CDC	1
L12121002-18	MW-107	1		12/13/2012 1918	CDC	1
L12121002-19	EW-37	1		12/13/2012 1949	CDC	1
L12121002-20	EW-53	1		12/13/2012 2019	CDC	1
MB63894:1	Method Blank	1		12/13/2012 0124	CDC	1
LCS63894:1	Laboratory Control Spike	1		12/13/2012 0155	CDC	1
MS12121002-20:63894	Matrix Spike	1		12/13/2012 2050	CDC	1
MSD12121002-20:63894	Matrix Spike Duplicate	1		12/13/2012 2120	CDC	1

SC Certification Number: 24110001

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QC Batch Report - Method Blanks

WorkGroup: WG63894
Blank : MB63894:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SW846 9056A				
Date/Time: 12/13/2012 0124 Analyst: CDC Dilution: 1				
CHLORIDE, TOTAL	<	1.00 U	1.00	mg/l

SC Certification Number: 24110001

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QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63894
 MS/MSD : MS12121002-20:63894
 MSD12121002-20:63894

Matrix : GW/ChemW
 Prep Method :
 Analytical Method: SW846 9056A

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	MSD %REC	MSD %REC	Limits
CHLORIDE, TOTAL	10.00	10.50	20.39	mg/l	99			80-120

Parameter	Spike Added	MSD Conc	Units	MSD %REC	MSD %REC	MSD %REC	MSD %REC	Limits
CHLORIDE, TOTAL	10.00	20.59	mg/l	101	1	15	80-120	

NOTE: MS/MSD % recoveries are not evaluated if the sample concentration is greater than four times the spike added.



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QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63894
LCS : LCS63894:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9056A

Parameter	Spike Added	LCG Conc	Units	LCS AREC	Limits REC
CHLORIDE, TOTAL	10.00	9.84	mg/l	98	80-120



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
Page 98 of 105 Report ID: AL23

QC Batch Report - Batch Sample List

WorkGroup : WG63983
Description: TOC-GW

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L12121002-01	RW-29	1		12/26/2012 1529	CDC	1
L12121002-02	EW-49	1		12/26/2012 1558	CDC	1
L12121002-03	MW-109	1		12/26/2012 1625	CDC	1
L12121002-04	MW-105	1		12/26/2012 1654	CDC	1
L12121002-05	RW-108	1		12/26/2012 1722	CDC	1
L12121002-06	MW-106	1		12/26/2012 1751	CDC	1
L12121002-08	RW-48	1		12/26/2012 1819	CDC	1
L12121002-09	EW-41	1		12/26/2012 1848	CDC	1
L12121002-10	EW-31	1		12/26/2012 1916	CDC	1
MB63983:1	Method Blank	1		12/26/2012 1433	CDC	1
LCS63983:1	Laboratory Control Spike	1		12/26/2012 2056	CDC	1
MS12120301-04:63983	Matrix Spike	1		12/26/2012 1951	CDC	1
MSD12120301-04:63983	Matrix Spike Duplicate	1		12/26/2012 2025	CDC	1



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
Page 99 of 105 Report ID: AL23

QC Batch Report - Method Blanks

WorkGroup: WG63983
Blank : MB63983:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SW846 9060A				
Date/Time: 12/26/2012 1433 Analyst: CDC Dilution: 1				
ORGANIC CARBON, TOTAL - AVG	<	1.00	U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 100 of 105 Report ID: AL23

QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63983
MS/MSD : MS12120301-04:63983
MSD12120301-04:63983

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	MSD %REC	Limits %REC
ORGANIC CARBON, TOTAL - AVG	20.00	< 1.00	19.18	mg/l	96		76-115

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	MSD %RED	MSD %RED	MSD %REC
ORGANIC CARBON, TOTAL - AVG	20.00	19.34	mg/l	97	1	10	76-115

NOTE: MS/MSD % recoveries are not evaluated if the sample concentration is greater than four times the spike added.



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 101 of 105 Report ID: AL23

QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63983
LCS : LCS63983:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
ORGANIC CARBON, TOTAL - AVG	50.00	49.44	mg/l	99	90-110



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 102 of 105 Report ID: AL23

QC Batch Report - Batch Sample List

WorkGroup : WG63984
Description: TOC-GW

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L12121002-11	DW-11	1		12/26/2012 2209	CDC	1
L12121002-13	MW-99	1		12/26/2012 2237	CDC	1
L12121002-14	MW-103	1		12/26/2012 2305	CDC	1
L12121002-15	MW-202	1		12/26/2012 2333	CDC	1
L12121002-16	EW-52	1		12/27/2012 0000	CDC	1
L12121002-17	RW-65	1		12/27/2012 0029	CDC	1
L12121002-18	MW-107	1		12/27/2012 0056	CDC	1
L12121002-19	EW-37	1		12/27/2012 0124	CDC	1
L12121002-20	EW-53	1		12/27/2012 0152	CDC	1
MB63984:1	Method Blank	1		12/26/2012 2141	CDC	1
LCS63984:1	Laboratory Control Spike	1		12/27/2012 0330	CDC	1
MS12121002-11:63984	Matrix Spike	1		12/27/2012 0225	CDC	1
MSD12121002-11:63984	Matrix Spike Duplicate	1		12/27/2012 0258	CDC	1



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : ARCOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07

Report Date : January 03, 2013
Page 103 of 105 Report ID: AL23

QC Batch Report - Method Blanks

WorkGroup: WG63984
Blank : MB63984:1

Parameter	Result	Qual	RDL	Units
-----------	--------	------	-----	-------

Matrix : GW/ChemW

Wet Chemistry
SW846 9060A

Date/Time: 12/26/2012 2141	Analyst: CDC	Dilution: 1	
ORGANIC CARBON, TOTAL - AVG	<	1.00 U	1.00 mg/l



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 104 of 105 Report ID: AL23

QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG63984
MS/MSD : MS12121002-11:63984
MSD12121002-11:63984

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
ORGANIC CARBON, TOTAL - AVG	20.00	< 1.00	19.21	mg/l	96	76-115

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	MSD %RPD	Limits %RPD	MSD %REC
ORGANIC CARBON, TOTAL - AVG	20.00	19.60	mg/l	98	2	10	76-115

NOTE: MS/MSD % recoveries are not evaluated if the sample concentration is greater than four times the spike added.



LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM
1455 OLD ALABAMA RD.
SUITE 170
ROSWELL, GA 30076
Contact : BRYON DAHLGREN

Project Number: 61576.07
Report Date : January 03, 2013
Page 105 of 105 Report ID: AL23

QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG63984
LCS : LCS63984:1

Matrix : GW/ChemW
Prep Method :
Analytical Method: SW846 9060A

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
ORGANIC CARBON, TOTAL - AVG	50.00	49.08	mg/l	98	90-110



Chain of Custody Record

Client C.N.A.		Project / Site Location 061576.07		Laboratory Certification Numbers: SC-24110, NC-25, NELAP-EB7633, TN-2923, VA-77 816 E. Durst Avenue, Greenwood, SC 29649 (864) 229-4413 Fax: (864) 229-7119 Email: Laboratory@davisfloyd.com Internet: www.davisfloyd.com		Office Use Only Laboratory Work Request	
Contact Auriga Polymers - Sptbg, SC		Report To Bryon Dahlgren		Copy To Reporting Requirements: [] Standard [] Data Package (Specify Level: 1 2 3 4) Turnaround Requirements: [] Standard [] Rush (Specify: _____) Required Parameters, Containers and Preservatives (P) _____		PO / Quote Number 7C 0	
Collected By ERM		Atmospheric Conditions (Optional)		Containers 3K40 G VOC's 500 P Alkalinity, Chloride 250 P Mn DSS 125 G TFE		Special Instructions SC LOGIN 13121002	
NOTICE: Composite Sampling Only		Sample Collection Date Time		Number of Containers Grab Type Matrix Type Total		Comments Indicate any known or expected hazards with a "X"	
RW-29 EW-49 MW-109 MW-105 RW-108 MW-106 SW-12 RW-48 EW-41 EW-31 DW-11 MW-201 MW-99 MW-103 Mese MW-202		- 12/5/12 0905 - 12/5/12 1005 - 12/5/12 1015 - 12/5/12 1100 - 12/5/12 1130 - 12/5/12 1155 - 12/5/12 1255 - 12/5/12 1340 - 12/5/12 1510 - 12/5/12 1605 - 12/5/12 1830 - 12/5/12 1900 - 12/6/12 0900 - 12/6/12 1005 - 12/6/12 1050		X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 3 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6 X 5 6		01 02 03 04 05 06 07 08 09 10 11 12 13 14 15	
Relinquished By [Signature]		Date 12/6/12		Time 1830		Shipped Via UPS FEDEX CLIENT COURIER	
Received By [Signature]		Date 12/17/12		Time 1830		Tracking Number _____	
Comments Diss MW field filtered		Flow Measurement (Note 1) Beginning Ending Start Date: Multiplier		Flow Measurement (Note 1) Beginning Ending Start Date: Multiplier		Receipt Information Cooler ID (if available): On loc: (Yes) No Temp(C) 4 Immediate Delivery: Yes () No () Custody Seal: Intact / Broken / None	

Matrix Type Definitions 1-Drinking Water 2-Clean Water 5-Groundwater 7-Soil/Sediment 8-Liquid Sludge 9-Oil 12-Air
 (P) Preservative Definitions A-None B-H2SO4 C-HCl D-HNO3 E-NaOH F-Filtered G-NazS2O3
 (Note 1) For Discharge Measurements Davis & Floyd, Inc. FL02_03 (04/10)

Client: C.N.A. Project / Site Location: 061576.07
 Auriga Polymers - Sptbg, SC
 Laboratory Certification Numbers: SC-24110, NC-25, NEAP-EB753, TN-2923, VA-77
 816 E. Dursi Avenue, Greenwood, SC 29649 (864) 229-4413 Fax: (864) 229-7119
 Email: Laboratory@davisfloyd.com Internet: www.davisfloyd.com

Contact: Byron Dahlgren Copy To: Reporting Requirements: [] Standard [] Data Package (Specify Level: 1 2 3 4)
 Turnaround Requirements: [] Standard [] Rush (Specify:)
 Collected By: Atmospheric Conditions: (Optional) CONTAINERS: 3x40 G TFE, 500 P, 250 P, 125 G TFE
 Required Parameters: [] Standard [] Rush (Specify:)

NOTICE: EFM Composite Sampling Only
 Date Initiated: Sample Collection Date Time Composite Grab Matrix Type Number of Containers
 Parameters: VOC's, Alkalinity, Chloride, Mn Diss., TOC
 Special Instructions: State SC, Lot# 12121002

Sample Description	Date	Time	Sample Collection Date	Time	Composite	Grab	Matrix Type	Number of Containers	PARAMETERS	CONTAINERS	Comments	Fraction
EW-52	12/6/12	1110	12/6/12	1110	X	S		6	VOC's	3x40 G TFE		16
RW-65	12/6/12	1205	12/6/12	1205	X	S		6	Alkalinity, Chloride	500 P		17
MW-107	12/6/12	1255	12/6/12	1255	X	S		6	Mn Diss.	250 P		18
EW-37	12/6/12	1355	12/6/12	1355	X	S		6	TOC	125 G TFE		19
EW-53	12/6/12	1500	12/6/12	1500	X	S		6				20

Relinquished By: [Signature] Date: 12/6/12 Time: 1530
 Received By: [Signature] Date: 12/7/12 Time: 1730
 Relinquished By: [Signature] Date: 12/7/12 Time: 1500
 Received in Laboratory By: [Signature] Date: 12/10/12 Time: 1500

Comments: Dess. Mn Field Filtered
 Sample Chamber Temp. at Harvest: Circle: C or F
 Beginning Ending Start Date: Multiplier
 Note: Indicate immediate delivery for those shipments in which the temperature does not have adequate time to reach 4°C.
 Receipt Information: Cooler ID (if available): On Ice: (Yes/No) Temp(C): 4 Immediate Delivery: Yes/No
 Shipped Via: UPS FEDEX CLIENT COURIER OTHER
 Tracking Number: D & F

Matrix Type Definitions: 1-Drinking Water, 2-Clean Water, 5-Groundwater, 7-Soil/Sediment, 8-Liquid Sludge, 9-Oil, 12-Air
 (P) Preservative Definitions: A-None, B-H2SO4, C-HCl, D-HNO3, E-NAOH, F-Filtered, G-Na2S2O3
 (Note 1) For Discharge Measurements
 Davis & Floyd, Inc. FL02_03 (04/10)

Client: C.N.A. Project/ Site Location: 061576.07
 Laboratory Certification Numbers: SC-24110, NC-25, NELAP- E87633, TN-2923, VA-77
 816 E. Durst Avenue, Greenwood, SC 29649 (864) 223-4413 Fax: (864) 229-7119
 Email: Laboratory@davisfloyd.com Internet: www.davisfloyd.com

Contact: Report To: Bryon Dahlgren Copy To: Reporting Requirements: Standard Data Package (Specify Level: 1 2 3 4)
 Turnaround Requirements: Standard Rush (Specify:)
 Required Parameters: Containers and Preservatives (P)

Collected By: Mark
 Mark Harbor
 NOTICE: Composite Sampling Only

Sample Description	Date Initiated	Sample Collection		Composite		Grab		Matrix Type		Number of Containers		PARAMETERS		CONTAINERS		Comments	Fraction
		Date	Time	Type	Total	VOC's	3x40 G TFE										
MW-200	12-5-12	1400	X	2	3	2											21
MW-52	12-5-12	1520	X														22
ENTER NUMBER OF SAMPLE CONTAINERS																	

Relinquished By: [Signature] Date: 12/6/12 Time: 1830
 Received By: [Signature] Date: 12/7/12 Time: 1500
 Relinquished By: [Signature] Date: 12/7/12 Time: 1500

Comments: [Blank]
 Sample Chamber Temp. at Harvest: Circle: C or F
 Flow Measurement (Note 1): Beginning Ending Start Date: Multiplier
 Note: Immediate delivery for these samples in which the temperature does not have accurate time to reach 4°C.

Matrix Type Definitions: 1 - Drinking Water 2 - Clean Water 5 - Groundwater 7 - Solid/Sediment 8 - Liquid Sludge 9 - Oil 12 - Air
 (P) Preservative Definitions A - None B - H2SO4 C - HCl D - HNO3 E - NaOH F - Filtered G - Na2S2O3
 Davis & Floyd, Inc. FLD2_03 (04/10)



Water Level Measurements

CWA
Project No: _____ Site: SPARTANBURG

Well ID	Date	Depth to NAPL	Depth to Water	Comments
MW-52	12/5/12	-	34.17	
RW-29	12/5/12	-	45.51	
EW-49	12/5/12	-	24.97	
MW-109	12/5/12	-	47.10	
MW-105	12/5/12	-	17.15	
RW-108	12/5/12	-	48.24	
MW-106	12/5/12	-	17.90	
RW-48	12/5/12	-	42.75	
EW-41	12/5/12	-	26.50	
EW-31	12/5/12	-	24.23	
MW-99	12/6/12	-	49.91	
MW-103	12/6/12	-	38.90	
EW-52	12/6/12	-	20.28	
RW-65	12/6/12	-	41.01	
MW-107	12/6/12	-	41.96	no lock
EW-37	12/6/12	-	33.30	
EW-53	12/6/12	-	57.52	

Signature: *[Signature]*

Date: 12/6/12

Page: 1 of 1

EQUIPMENT CALIBRATION FORM

Client: CNA Holdings Project #: Auriga Polymers / Spartanburg, SC

INSTRUMENT: YSI 556 / Hach 2100Q

SERIAL NO.: 04K16614 / 00390

Date	Time	Parameter	Calibration Reading	Calibration Recorded By
12/5/12	0740	pH	4.00	Lot# 2202287 Exp: 01/14
			7.00	Lot# 2013665 Exp: 03/13
			10.00	Lot# 2202417 Exp: 08/13
12/5/12	0740	Specific Conductivity	1413 uS	Lot# 9710 Exp: 05/13
12/5/12	0740	ORP	240 mV	Lot# 3611 Exp: 9/20/16
12/5/12	0740	Dissolved Oxygen	100 %	NA
12/5/12	0740	Turbidity	0.1, 1.0	↓
NA	NA	Temperature	NA	
↓	↓	Ambient Air Pressure	↓	
		NA	↓	

INSTRUMENT: YSI 556 / Hach 2100Q

SERIAL NO.: 04K16614 / 0039

Date	Time	Parameter	Calibration Reading	Calibration Recorded By
12/6/12	0705	pH	4.00	Lot# 2202287 Exp: 01/14
			7.00	Lot# 2013665 Exp: 03/13
			10.00	Lot# 2202417 Exp: 08/13
12/6/12	0705	Specific Conductivity	1413 uS	Lot# 9710 Exp: 05/13
12/6/12	0705	ORP	240 mV	Lot# 3611 Exp: 9/20/16
12/6/12	0705	Dissolved Oxygen	99 %	NA
12/6/12	0705	Turbidity	0.1, 1.0	↓
NA	NA	Temperature	NA	
↓	↓	Ambient Air Pressure	↓	
		NA	↓	

Well/Piezo ID: MW-52

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/5/12
 Project No: _____ Time Start: 1450 am/pm
 Site Location: Spartanburg, SC Finish: 1520 am/pm
 Weather Conds: Cloudy Collector(s): M. W. [Signature]

WATER LEVEL DATA: (measured from Top of Casing)
 a. Total Well Length 53 c. Casing Material SS Well Piezometer
 b. Water Table Depth 34.17 d. Casing Diameter 2 e. Length of Water Column 18.83 (a-b)
 f. Calculated Well Volume (see back) 3.1

WELL PURGING DATA:

a. Purge Method: Low Flow

b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume @ N/A well volumes: N/A PURGE RATE 2.00 ml/min
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %

c. Field Testing Equipment Used: Make Model Serial Number
 YSI 556
 HACH

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
1450	Initial	18.19	6.65	169	151.1	3.66	1100	0.00	34.45
1455	2000	18.22	6.63	152.6	151.6	3.42	>1000		34.51
1500	3000	18.31	6.53	164	153.9	3.13	>1000		34.50
1505	4000	18.45	6.47	156	154.0	4.17	660		34.51
1510	5000	18.46	6.43	151	153.1	4.08	625	1	34.53
1515	6000	18.51	6.44	149	152.4	4.11	650		34.56

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	VOA	3	NONE	8260	1520
	Various	Various	Various	Nat Alteration	

Comments: Fe+2 = mg/l

Signature: [Signature]

Date: 12/5/12

Tap TD @ 54.7
 BPLup stops at 34 then
 goes to bottom

Tap Black MW-200

Well/Piezo ID: RW-29

Ground-Water Sample Collection Record

Client:	<u>Celanese Corporation</u>	Date:	<u>12/5/12</u>
Project No:		Time: Start	<u>0820</u> am/pm
Site Location:	<u>Spartanburg, SC</u>	Finish	<u>0915</u> am/pm
Weather Conds:	<u>P. cloudy 50's</u>	Collector(s):	<u>Mill</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length 134.00 c. Casing Material steel e. Length of Water Column 88.49 (a-b)

b. Water Table Depth: 45.51 d. Casing Diameter 4" f. Calculated Well Volume (see back) 58.4

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan):
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min.
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>04K16614</u>
<u>HACH</u>	<u>2008</u>	<u>00390</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	% DTW
0830	Initial	16.88	6.60	154	-55.4	3.11	50.6	clear/0	45.51
0835	3000	17.69	6.92	153	-169.4	0.87	20.1	clear/0	45.51
0840	4000	17.73	7.90	152	-222.3	0.55	19.6	clear/0	45.51
0845	5000	17.74	8.05	152	-229.3	0.40	10.4	clear/0	45.51
0850	6000	17.74	8.10	152	-234.1	0.29	9.6	clear/0	45.51
0855	7000	17.75	8.12	152	-236.9	0.26	7.3	clear/0	45.51
0900	8000	17.75	8.13	152	-240.7	0.21	6.9	clear/0	45.51

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>RW-29</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>0905</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	<u>↓</u>

Comments Fe+2=0.0 mg/l

Signature Carl [Signature]

Date 12/5/12

Well/Piezo ID: EW-49

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/5/12
 Project No: _____ Time: Start 0930 am/pm
 Site Location: Spartanburg, SC Finish 1015 am/pm
 Weather Conds: P. Cloudy, 60s Collector(s) A.H.H.

WATER LEVEL DATA: (measured from Top of Casing)
 a. Total Well Length 77.00 c. Casing Material Steel
 b. Water Table Depth 24.97 d. Casing Diameter 6"
 e. Length of Water Column 52.03 (a-b)
 f. Calculated Well Volume (see back) 78.1

WELL PURGING DATA

a. Purge Method Low Flow
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 2.00 ml/min
 - Maximum Allowable Turbidity N/A NTUs
 - Stabilization of parameters: 10 %
 c. Field Testing Equipment Used:
 Make: YSI Model 556 Serial Number 04K16614
 HACH Model 21006 Serial Number 00390
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
0935	Initial	18.65	8.06	197	-122.0	3.24	3.4	Clear/No	24.97
40	2000	18.63	8.07	199	-161.2	0.92	3.3	Clear/No	24.97
45	3200	18.61	8.11	207	-184.3	0.77	3.3	Clear/No	24.97
50	4000	18.59	8.13	207	-187.6	0.69	3.3	Clear/No	24.97
55	5000	18.56	8.14	209	-189.0	0.67	2.6	Clear/No	24.97
02	6000	18.55	8.14	209	-189.4	0.60	2.2	Clear/No	24.97

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>EW-49</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1005</u>
<u>↓</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments Fe+2 = 0.0 mg/l

Signature [Signature]

Date: 12/5/12

Well/Piezo ID: MW-109

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/5/12</u>
Project No: _____	Time: Start <u>9:40</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish <u>10:15</u> am/pm
Weather Conds: <u>Cloudy</u>	Collector(s): <u>Mark Hartford</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length 89.85 c. Casing Material SS e. Length of Water Column 42.75 (a-b)

b. Water Table Depth 47.10 d. Casing Diameter 2 IN f. Calculated Well Volume (see back) 7

WELL PURGING DATA:

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 100 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	
<u>HACH</u>		

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # 125-12-Daily Log

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB nu	Color/ Odor	DTW
<u>9:50</u>	<u>Initial 500</u>	<u>17.77</u>	<u>5.75</u>	<u>87</u>	<u>179.6</u>	<u>9.37</u>	<u>124.8</u>	<u>Clear</u>	<u>48.18</u>
<u>9:55</u>	<u>1000</u>	<u>17.71</u>	<u>5.80</u>	<u>56</u>	<u>184.8</u>	<u>9.19</u>	<u>315.5</u>	<u>Cloudy</u>	<u>47.95</u>
<u>10:00</u>	<u>1500</u>	<u>17.50</u>	<u>5.81</u>	<u>56</u>	<u>184.6</u>	<u>9.18</u>	<u>283.4</u>	<u>Cloudy</u>	<u>47.86</u>
<u>10:05</u>	<u>2000</u>	<u>17.50</u>	<u>5.81</u>	<u>56</u>	<u>183.2</u>	<u>9.22</u>	<u>295.6</u>	<u>Cloudy</u>	<u>47.95</u>
<u>10:10</u>	<u>2500</u>	<u>17.91</u>	<u>5.82</u>	<u>56</u>	<u>184.1</u>	<u>9.21</u>	<u>281.6</u>	<u>Cloudy</u>	<u>47.97</u>

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>10:15</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments Fe+2 = 0.14 mg/l

Signature Mark Hartford

Date 12/5/12

DO Readings NOT correct. Cleaned sensor and replaced electrolyte on Rh-109 and began reading correctly

Well/Piezo ID: MW-105

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/5/12</u>
Project No: _____	Time: Start <u>1025</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish <u>1110</u> am/pm
Weather Conds: <u>Cloudy; 60°s</u>	Collector(s): <u>AKL</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length 44.00 c. Casing Material MC e. Length of Water Column 26.85 (a-b)

b. Water Table Depth 17.15 d. Casing Diameter 2" f. Calculated Well Volume (see back) 4.4

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10%

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	01K16614
HACH	2100 Q	00390

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
1030	Initial	18.74	6.64	74	108.5	6.82	4.9	Cloudy/N/A	17.15
1035	2000	18.74	5.46	72	220.7	5.81	3.7	Cloudy/N/A	17.15
1040	2000	18.71	5.39	70	224.4	4.73	3.1	Cloudy/N/A	17.15
1045	4000	18.69	5.39	69	225.3	4.58	2.9	Cloudy/N/A	17.15
1050	5000	18.69	5.38	69	226.0	4.42	2.6	Cloudy/N/A	17.15
1055	6000	18.67	5.37	69	226.8	4.39	2.2	Cloudy/N/A	17.15

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-105</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1105</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments Fe+2 = 0.0 mg/l

Signature AKL

Date 12/5/12

Well/Piezo ID: RW-108

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/5/12</u>
Project No: _____	Time: Start <u>7:58</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish <u>11:30</u> am/pm
Weather Conds: _____	Collector(s): _____

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 124.56 c. Casing Material SS Well Piezometer

b. Water Table Depth 48.24 d. Casing Diameter 2 e. Length of Water Column 76.32 (a-b)

f. Calculated Well Volume (see back) 12.4

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	
HACH		

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond. (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
1050	Initial 500	17.50	7.86	295	-18.7	10.24	36.72	Clear	50.35
1105	1000	17.62	7.94	359	-54.6	0.78	16	Clear	51.51
1110	2000	17.65	7.86	331	-62.4	0.49	14.6	Clear	51.61
1115	3000	17.71	7.80	322	-82.1	0.35	12.3	Clear	51.61
1120	4000	17.74	7.74	324	-84.6	0.32	14.1	Clear	51.63
1125	5000	17.79	7.81	326	-86.1	0.41	15	Clear	51.63

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| | Yes | No | N/A |
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
	VOA	3	NONE	8260	11:30
	Various	Various	Various	Nat Attenuation	

Comments Fe+2 = 0.16 mg/l

Signature [Handwritten Signature]

Date 12/5/12

1100 cleaned DO sensor

Well/Piezo ID: MW-106

Ground Water Sample Collection Record

Client:	<u>Celanese Corporation</u>	Date:	<u>12/5/12</u>
Project No:		Time Start:	<u>11:20</u> am/pm
Site Location:	<u>Spartanburg, SC</u>	Finish:	<u>12:05</u> am/pm
Weather Conds:	<u>W. Rain 60°s</u>	Collector(s):	<u>AJH</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length	<u>26.00</u>	c. Casing Material	<u>PVC</u>	e. Length of Water Column	<u>8.10</u> (a-b)
b. Water Table Depth	<u>17.90</u>	d. Casing Diameter	<u>2"</u>	f. Calculated Well Volume (see back)	<u>1.3</u>

Well Piezometer

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 2.00 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	<u>04K16014</u>
HACH	<u>2102 Q</u>	<u>00390</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
11:25	Initial	18.79	4.69	71	278.3	8.01	5.5	clear/NS	17.90
11:30	2000	18.84	4.90	69	280.2	6.13	5.0	clear/NS	17.90
11:35	3000	18.77	4.94	66	277.5	5.64	4.4	clear/NS	17.90
11:40	4000	18.70	4.94	64	271.5	6.62	3.9	clear/NS	17.90
11:45	5000	18.93	4.95	64	290.4	6.58	3.7	clear/NS	17.90
11:50	6000	18.95	4.95	63	292.9	6.55	3.4	clear/NS	17.90

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below, _____

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-106</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>11:55</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments Fe+2 = 0.0 mg/l

Signature [Signature] Date 12/5/12

<p>Date (y/m/d) <u>12/12/05</u></p> <p>Field Personnel <u>Mark Hartford</u></p> <p>Site Name <u>Auriga Spartanburg</u></p> <p>AECOM Job No. <u>602804.17</u></p> <p>Sample Station ID <u>SW-12</u></p> <p>Surface Water <input checked="" type="checkbox"/> Sediment <input type="checkbox"/></p> <p>Weather Conditions <u>Cloudy</u></p> <p>Air Temperature (°C) <u>70</u></p> <p>Surface Water <input type="checkbox"/> Sediment <input type="checkbox"/></p> <p>Bailer <input type="checkbox"/> Stainless-Steel Spoon <input type="checkbox"/></p> <p>Bottle <input checked="" type="checkbox"/> Stainless-Steel Scoop <input type="checkbox"/></p> <p>Other (Specify) _____</p> <p>Sample Container Preservative (Y/N, Type) _____</p> <p>Surface Water <input checked="" type="checkbox"/> Sediment <input type="checkbox"/></p> <p>VOCs <input type="checkbox"/></p> <p>1,4dioxane _____</p> <p>(NTU) - Nephelometric Turbidity Units (MV) - Millivolts mS/cm) - millisiemens Per Centimeter</p>	<p>Field Analysis</p> <p>Surface Water <u>1257</u> Sediment _____</p> <p>Time (Military) _____</p> <p>pH (S.U.) <u>6.11</u></p> <p>ORP (mV) <u>157.6</u></p> <p>Specific Conductivity (mS/cm) <u>0.103</u></p> <p>Water Temperature (°C) <u>14.24</u></p> <p>Dissolved Oxygen (mg/L) <u>8.07</u></p> <p>Turbidity (NTU) <u>10.91</u></p> <p>Salinity (PPT) _____</p> <p>Ferrous (on) (mg/L) _____</p> <p>Comments/Observations: (1) Clear (2) Slight (3) Moderate (4) High Collected from north side of stream from the bank near the bottom. Gradient Station SW-12</p>
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Well/Piezo ID: RW-48

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/5/12
 Project No: _____ Time: Start 1225 am/pm
 Site Location: Spartanburg, SC Finish 1350 am/pm
 Weather Conds: overcast; 60's Collector(s): A. Hill

WATER LEVEL DATA: (measured from Top of Casing)
 a. Total Well Length: 109.15 c. Casing Material: steel
 b. Water Table Depth: 42.95 d. Casing Diameter: 4
 e. Length of Water Column: 66.40 (a-b)
 f. Calculated Well Volume (see back): 43.8'

WELL PURGING DATA
 a. Purge Method: Low Flow
 b. Acceptance Criteria defined (from workplan):
 - Minimum Required Purge Volume @ N/A well volumes) N/A PURGE RATE 200 ml/min
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %
 c. Field Testing Equipment Used:
 Make Model Serial Number
 YSI 556 04K16614
 HACH 2100a 00390
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook #: _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
1230	Initial	18.10	6.55	197	-102.5	3.31	97.2	clear/w	42.77
1320	2000	18.14	6.56	208	-158.2	1.08	74.9	clear/w	42.80
1325	3000	18.20	6.49	208	-169.2	0.34	75.6	clear/w	42.80
1330	4000	18.24	6.83	208	-175.5	0.27	74.9	clear/w	42.80
1335	5000	18.25	6.84	208	-175.9	0.24	75.8	clear/w	42.80

e. Acceptance criteria pass/fail
 Has required volume been removed: Yes No N/A
 Has required turbidity been reached: Yes No N/A
 Have parameters stabilized: Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>RW-48</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1348</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 1.6 mg/l - pump malfunction (caused time gap)

Signature: A. Hill Date: 12/12

Well/Piezo ID: EW-4

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/5/12</u>
Project No: _____	Time Start: <u>1405</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish: <u>1530</u> am/pm
Weather Conds: <u>Rainy 60°S</u>	Collector(s): <u>AH:ll</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length: 640.0 c. Casing Material: steel

b. Water Table Depth: 26.50 d. Casing Diameter: 6"

e. Length of Water Column: 3750 (a-b)

f. Calculated Well Volume (see back): 56.2

Well Piezometer

WELL PURGING DATA

a. Purge Method: Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
- Maximum Allowable Turbidity: N/A NTUS
- Stabilization of parameters: 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	<u>085116614</u>
HACH	<u>21009</u>	<u>00390</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB nitu	Color/Odor	DTW
1400	Initial	17.26	5.79	103	8.5	1.23	119	orange/yel	26.52
1415	1000	17.26	5.79	103	6.9	1.08	107	clear/yel	26.52
1420	1500	17.26	5.79	103	6.1	0.90	101	clear/yel	26.53
1430	4500	17.40	5.82	103	5.2	0.94	60.8	clear/yel	26.54
1500	5000	17.44	5.82	103	4.9	0.39	60.4	clear/yel	26.54
1505	5500	17.45	5.82	103	4.4	0.39	60.7	clear/yel	26.54

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>EW-4</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1510</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 1.2 mg/l Dup taken (Dw-11)

Signature: [Signature]

Date: 12/5/12

Well/Piezo ID: EW-31

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/5/12
 Project No: _____ Time: Start: 1535 am/pm
 Site Location: Spartanburg, SC Finish: 1615 am/pm
 Weather Conds: Partly Cloudy, 60's Collector(s): AKW

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 110.5 c. Casing Material Steel Well: Piezometer:
 b. Water Table Depth: 24.23 d. Casing Diameter 6" e. Length of Water Column 86.27 (a-b)
 f. Calculated Well Volume (see back) 129.4

WELL PURGING DATA

a. Purge Method Low Flow
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %
 c. Field Testing Equipment Used: Make Model Serial Number
 YSI _____ 556 04K16614
 HACH 2100Q 00390
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
1540	Initial	16.83	6.59	259	-121	1.51	21.9	clear/yes	24.23
1545	2000	16.69	6.83	267	-108.8	0.60	11.7	clear/yes	24.23
1550	3000	16.62	6.97	268	-107.5	0.53	7.8	clear/yes	24.23
1555	4000	16.58	6.90	269	-106.7	0.49	6.9	clear/yes	24.23
1600	5000	16.55	6.92	269	-105.8	0.43	4.3	clear/yes	24.23

e. Acceptance criteria pass/fail. Yes No N/A
 Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>EW-31</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1605</u>
<u>↓</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	<u>↓</u>

Comments Fe+2 = 1.2 mg/l

Signature [Signature] Date 12/5/12

Well/Piezo ID: MW-99

Ground Water Sample Collection Record

Client:	<u>Celanese Corporation</u>	Date:	<u>12/6/12</u>
Project No:		Time: Start	<u>0745</u> am/pm
Site Location:	<u>Spartanburg, SC</u>	Finish	<u>0910</u> am/pm
Weather Conds:	<u>H-Rain: 40%</u>	Collector(s):	<u>ALLI</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length	<u>65.97</u>	c. Casing Material	<u>PVC</u>	Well <input checked="" type="checkbox"/>	Piezometer <input type="checkbox"/>
b. Water Table Depth	<u>49.91</u>	d. Casing Diameter	<u>2"</u>	e. Length of Water Column	<u>16.06</u> (a-b)
				f. Calculated Well Volume (see back)	<u>2.0</u>

WELL PURGING DATA

a. Purge Method: Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
- Maximum Allowable Turbidity: N/A NTUs
- Stabilization of parameters: 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	04K16614
HACH	2100	00390

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
0750	Initial	18.35	7.16	34	160.7	3.11	96.4	cloudy/No	49.92
0810	5000	18.60	6.24	34	202.1	2.82	69.2	cloudy/No	49.77
0830	9000	18.65	6.01	33	258.4	2.69	31.4	clear/No	49.77
0840	11000	18.67	5.87	32	270.2	2.38	18.6	clear/No	49.92
0845	12000	18.68	5.22	31	273.1	2.25	10.4	clear/No	49.92
0850	13000	18.69	5.22	31	275.8	2.14	9.7	clear/No	49.92
0855	14000	18.69	5.21	30	277.5	2.11	8.2	clear/No	49.92

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below:

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-99</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>0900</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 0.0 mg/l

Signature: [Signature] Date: 12/6/12

Well/Piezo ID: MW-103

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/6/12</u>
Project No: _____	Time Start: <u>0925</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Time Finish: <u>1015</u> am/pm
Weather Conds: <u>Overcast; 40's</u>	Collector(s): <u>A.H.H.</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length: <u>59.00</u>	c. Casing Material: <u>PVC</u>	e. Length of Water Column: <u>20.1</u> (a-b)
b. Water Table Depth: <u>38.90</u>	d. Casing Diameter: <u>2"</u>	f. Calculated Well Volume (see back): <u>3.3</u>

Well Piezometer

WELL PURGING DATA

a. Purge Method: Low Flow

b. Acceptance Criteria defined (from workplan):
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 100 ml/min
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	04K16614
HACH	21008	00390

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP. C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW'
0930	Initial	16.36	4.99	54	302.5	6.69	97.6	clear/NT	38.91
0940	1500	16.58	4.69	54	338.6	6.73	21.4	clear/NT	38.92
0950	2500	16.61	4.64	53	343.2	6.76	12.3	clear/NT	38.92
0955	3000	16.62	4.62	53	344.7	6.88	7.4	clear/NT	38.93
1000	3500	16.84	4.61	53	345.3	6.82	5.4	clear/NT	38.94

e. Acceptance criteria pass/fail:

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-103</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1005</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 0.0 mg/l

Signature: A.H.H. Date: 12/6/12

Well/Piezo ID: PW-52

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/6/12
 Project No: _____ Time: Start 1025 am/pm
 Site Location: Spartanburg, SC Finish: 1130 am/pm
 Weather Conds: Overcast, 40's Collector(s): A Hill

WATER LEVEL DATA: (measured from Top of Casing)
 a. Total Well Length: 120.00 c. Casing Material: Steel
 b. Water Table Depth: 20.28 d. Casing Diameter: 6"
 Well Piezometer
 e. Length of Water Column: 99.72 (a-b)
 f. Calculated Well Volume (see back): 149.6

WELL PURGING DATA

a. Purge Method: Low Flow
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ N/A Well volumes) N/A PURGE RATE 200 ml/min.
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10 %
 c. Field Testing Equipment Used:
 Make: _____ Model: _____ Serial Number: _____
 YSI _____ 556 _____ 04K16614
 HACH _____ 2100 Q _____ 00390
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB. ntu	Color/ Odor	DTW
1030	Initial	14.27	5.51	97	-29.9	2.69	126.0	210/No	20.28
1035	2000	13.33	5.76	156	-35.3	0.75	89.5	clear/No	20.28
1045	4000	14.27	6.38	159	-74.0	0.45	61.2	clear/No	20.28
1055	6000	14.57	6.44	157	-73.4	0.42	40.7	clear/No	20.28
1100	7000	14.60	6.44	155	-72.3	0.38	40.2	clear/No	20.28
1105	8000	14.63	6.45	154	-71.9	0.37	40.5	Clear/No	20.28

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below _____

SAMPLE COLLECTION:

Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>PW-52</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1110</u>
<u>V</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 4.2 mg/l tiny orange particles in purge

Signature: A Hill

Date: 12/6/12

Well/Piezo ID: RW-65

Ground Water Sample Collection Record

Client: Celanese Corporation Date: 12/6/12
 Project No.: _____ Time: Start 1135 am/pm
 Site Location: Spartanburg, SC Finish 1215 am/pm
 Weather Conds: Overcast, 50° Collector(s) A.H.Y.

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 173.00 c. Casing Material steel Well Piezometer
 b. Water Table Depth 41.01 d. Casing Diameter 8" e. Length of Water Column 131.99 (a-b)
 f. Calculated Well Volume (see back) 21.5

WELL PURGING DATA

a. Purge Method Low Flow
 b. Acceptance Criteria defined (from workplan):
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 100 ml/min
 - Maximum Allowable Turbidity N/A NTUs
 - Stabilization of parameters 10 %
 c. Field Testing Equipment Used:
 Make Model Serial Number
YSI 556 04K16614
HACH 21006 00390
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
1140	Initial	16.26	6.97	255	-73.2	1.65	6.63	clear/No	41.03
1145	1000	16.69	7.30	256	-83.2	0.67	4.8	clear/No	41.04
1150	1500	16.72	7.33	257	-83.0	0.63	2.5	clear/No	41.04
1155	2000	16.74	7.36	257	-85.8	0.58	2.2	clear/No	41.05
1200	2500	16.77	7.37	258	-86.5	0.55	1.8	clear/No	41.06

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>RW-65</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1205</u>
<u>↓</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	<u>↓</u>

Comments Fe+2 = 0.4 mg/l

Signature A.H.Y. Date 12/6/12

Well/Piezo ID: MW-107

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/6/12</u>
Project No: _____	Time: Start <u>1225</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish <u>1305</u> am/pm
Weather Conds: <u>Overcast 50's</u>	Collector(s): <u>A.Hill</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length <u>120.70</u>	c. Casing Material <u>PVC</u>	Well <input checked="" type="checkbox"/> Piezometer <input type="checkbox"/>
b. Water Table Depth <u>41.96</u>	d. Casing Diameter <u>2"</u>	e. Length of Water Column <u>78.74</u> (a-b)
		f. Calculated Well Volume (see back) <u>12.8</u>

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 106 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	0416614
HACH	2100 Q	00390

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
1230	Initial	16.05	6.94	69	60.7	4.50	2.5	clear/NS	41.98
1235	1000	16.62	5.80	68	172.6	7.16	3.2	clear/NS	41.99
1240	1500	16.92	5.66	67	195.2	7.25	1.4	clear/NS	41.99
1245	2000	17.00	5.64	67	196.4	7.32	0.8	clear/NS	42.01
1250	2500	17.00	5.63	67	197.6	7.36	0.6	clear/NS	42.01

e. Acceptance criteria pass/fail.

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-107</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1255</u>
	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	

Comments: Fe+2 = 0.0 mg/l

Signature: A.Hill

Date: 12/6/12

Well/Piezo ID: EW-37

Ground Water Sample Collection Record

Client:	<u>Celanese Corporation</u>	Date:	<u>12/6/12</u>
Project No:		Time Start:	<u>1320</u> am/pm
Site Location:	<u>Spartanburg, SC</u>	Finish:	<u>1405</u> am/pm
Weather Conds:	<u>Overcast 50°</u>	Collector(s):	<u>A Hill</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length	<u>87.00</u>	c. Casing Material	<u>steel</u>	Well <input checked="" type="checkbox"/>	Piezometer <input type="checkbox"/>
b. Water Table Depth	<u>33.30</u>	d. Casing Diameter	<u>6"</u>	e. Length of Water Column	<u>53.70</u> (a-b)
				f. Calculated Well Volume (see back)	<u>88</u>

WELL PURGING DATA

a. Purge Method Low Flow

b. Acceptance Criteria defined (from workplan):

- Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10 %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>041616614</u>
<u>HACH</u>	<u>2100 Q</u>	<u>00390</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/Odor	DTW
1325	Initial	16.81	5.80	121	146.9	2.07	10.2	Clear/No	33.30
1330	2000	18.19	5.76	125	147.8	0.38	38.7	Clear/No	33.30
1335	3000	18.24	5.76	125	148.5	0.28	17.5	Clear/No	33.30
1340	4000	18.27	5.75	125	149.3	0.25	11.5	Clear/No	33.30
1345	5000	18.30	5.75	125	149.7	0.23	9.6	Clear/No	33.30
1350	6000	18.34	5.74	125	151.3	0.22	7.2	Clear/No	33.30

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>EW-37</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1355</u>
<u>"</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	<u>4</u>

Comments Fe+2 = 0.2 mg/l

Signature *A Hill*

Date 12/6/12

Well/Piezo ID: EW-53

Ground Water Sample Collection Record

Client: <u>Celanese Corporation</u>	Date: <u>12/6/12</u>
Project No: _____	Time: Start <u>1425</u> am/pm
Site Location: <u>Spartanburg, SC</u>	Finish <u>1515</u> am/pm
Weather Conds: <u>Overcast, 50's</u>	Collector(s): <u>AKH</u>

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

a. Total Well Length: 137.00 c. Casing Material: steel
 b. Water Table Depth: 57.52 d. Casing Diameter: 6"
 e. Length of Water Column: 79.48 (a-b)
 f. Calculated Well Volume (see back): 119.2

WELL PURGING DATA

a. Purge Method: Low Flow

b. Acceptance Criteria defined (from workplan):
 - Minimum Required Purge Volume (@ N/A well volumes) N/A PURGE RATE 200 ml/min
 - Maximum Allowable Turbidity: N/A NTUs
 - Stabilization of parameters: 10%

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>04K16614</u>
<u>HACH</u>	<u>21000</u>	<u>00390</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	ORP MV	D.O. mg/l	TURB ntu	Color/ Odor	DTW
1430	Initial	16.56	6.13	186	-20.0	4.69	20.8	clear/w	57.54
1435	2000	18.69	6.21	171	-26.7	0.50	18.9	clear/w	57.52
1440	4000	18.74	6.19	171	-24.5	0.29	19.9	clear/w	57.56
1445	4000	18.79	6.19	171	-23.4	0.27	19.2	clear/w	57.57
1450	6000	18.83	6.18	171	-22.8	0.24	18.9	clear/w	57.57
1455	6000	18.85	6.18	171	-22.0	0.21	18.9	clear/w	57.58

e. Acceptance criteria pass/fail

Has required volume been removed:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below:

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>EW-53</u>	<u>VOA</u>	<u>3</u>	<u>NONE</u>	<u>8260</u>	<u>1500</u>
<u>st</u>	<u>Various</u>	<u>Various</u>	<u>Various</u>	<u>Nat Attenuation</u>	<u>11</u>

Comments: Fe+2 = 46 mg/l

Signature: [Signature] Date: 12/6/12