



AECOM  
1360 Peachtree St.  
Suite 500  
Atlanta, GA 30309

Phone 404.965.9600  
Fax 404.965.9605

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

RECEIVED

FEB 20 2013

SITE ASSESSMENT,  
REMEDICATION &  
REVITALIZATION

**Subject: New bedrock wells data, January 2013**  
**Auriga, Spartanburg Facility**  
**Site # 00225**  
**AECOM Project No. 60280417**

SCANNED

2-21-13 CED  
AW

February 18, 2013

Dear Ms. Walker,

This memo provides the results of the samples collected from the new wells installed along Bruckner Road. Installation of these wells was approved in your letter dated August 21, 2012. The wells were completed in late December and samples were collected on January 8, 2013. Confirmation samples were collected on January 28, 2013. The laboratory data packages for both events are attached to this letter.

The locations of the two new wells as proposed are presented in Figure 1. Both wells are located south of the creek and along the Bruckner road right-of-way. The north well was identified as RW-110 and the south well was identified as RW-111. Trip blanks were included in each sampling event and are identified as MW-200 in the reports.

The results for the first sample collected from well RW-110 (located closer to the creek) included detections of 1,4-dioxane (0.0036 mg/L), acetone (0.118 mg/L), and chloroform (0.00574 mg/L). No organics detections were noted in the sample collected from well RW-111 (located further from the creek). Only chloroform (0.00649 mg/L) was detected in the re-sample collected from RW-110. The resample from RW-111 again reported no organic detections.

These results are being used as part of the development of the next steps in remediation plans for the Bruckner Road areas. The data and presentation of the final locations as surveyed will be included in the recommendations due to you by May 15, 2013.

If you have questions, please contact me at 404.965.9657.

Sincerely,

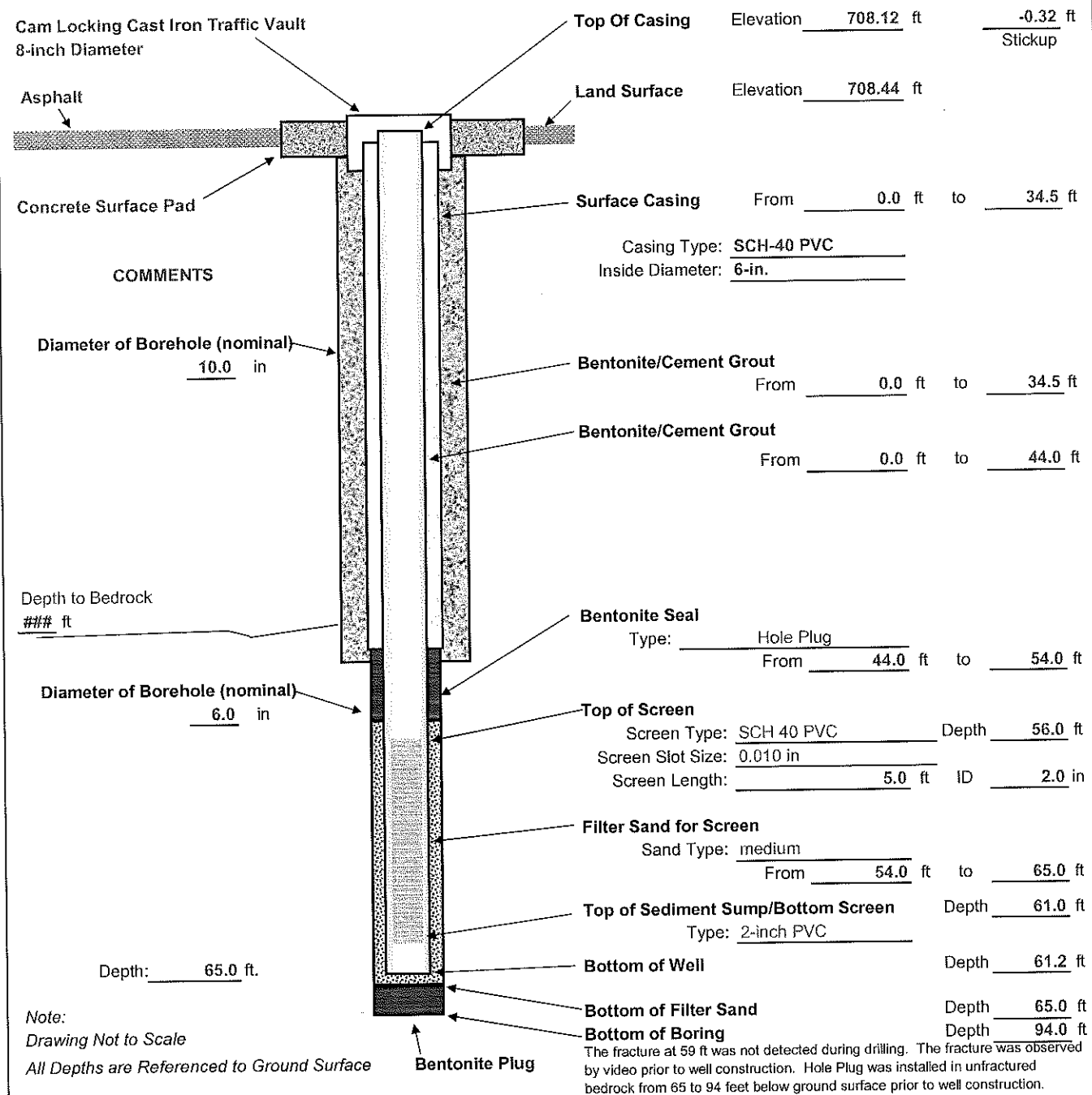
Bryon Dahlgren  
Project Manager

Attachments: Bruckner Road Locations  
Analytical Reports



**GROUNDWATER MONITORING WELL INSTALLATION DETAIL**

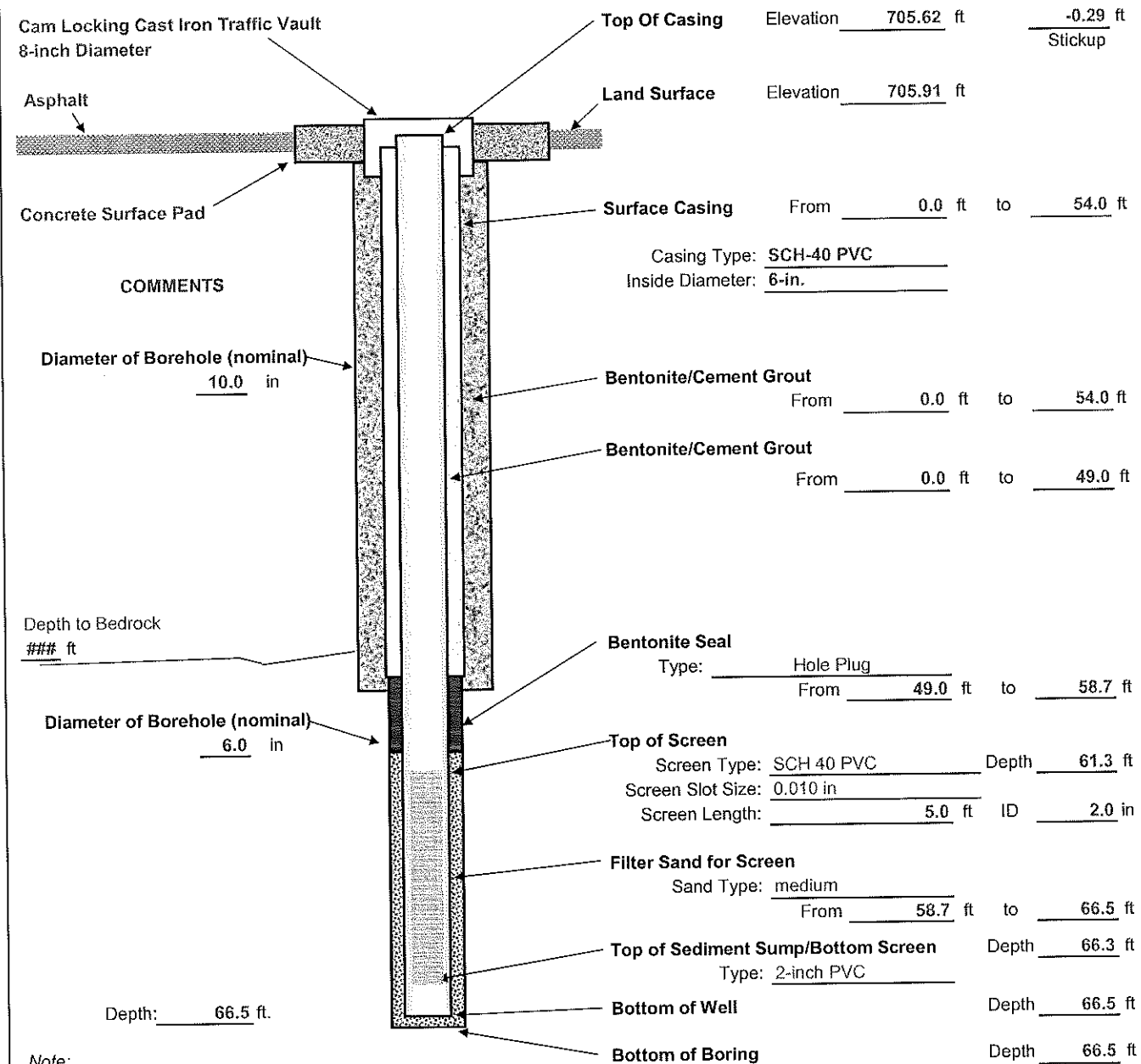
**Project Name:** Auriga Spartanburg    **Drilling Co:** AE Drilling Services    **Well Number:** RW-111  
**Location:** Bruckner Road    **Driller:** Tommy Burnette    **Job Number:** 60280417  
**Client:** Celanese    **Drilling Method:** Mud/Air Rotary    **Date Completed:** 12/20/2012  
**Geologist:** Mark Hartford    **Static Water Level:** 10.73 **b.TOC**    **Survey Datum:** NAVD '88





**GROUNDWATER MONITORING WELL INSTALLATION DETAIL**



**Project Name:** Auriga Spartanburg    **Drilling Co:** AE Drilling Services    **Well Number:** RW-110  
**Location:** Bruckner Road    **Driller:** Tommy Burnette    **Job Number:** 60280417  
**Client:** Celanese    **Drilling Method:** Mud/Air Rotary    **Date Completed:** 12/19/2012  
**Geologist:** Mark Hartford    **Static Water Level:** 22.00    **b.TOC**    **Survey Datum:** NAVD '88



Note:  
 Drawing Not to Scale  
 All Depths are Referenced to Ground



**LEGEND**

-  APPROXIMATE WELL LOCATION
-  EXISTING WELL LOCATION

100 50 0 100 Feet

**FIGURE 1**  
Bruckner Road Well Locations

January 22, 2013

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

Report ID : AL231  
Page 1 of 41

**RECEIVED**

FEB 20 2013

SITE ASSESSMENT,  
REMEDICATION &  
REVITALIZATION

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Login Number :L13010817  
Project Number :61576.08  
Description :AURIGA POLYMERS - SPARTANBURG, SC

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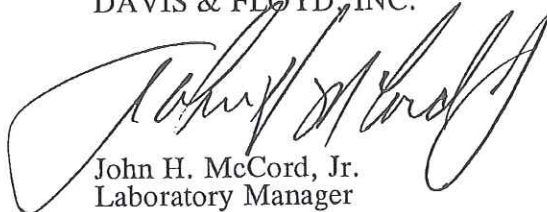
Dear Bryon Dahlgren:

We are pleased to provide the enclosed analytical results for the samples received by Davis & Floyd, Inc. on January 08, 2013.

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 43 pages, including attachments.

Initials: 

SC Certification Number: 24110001

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

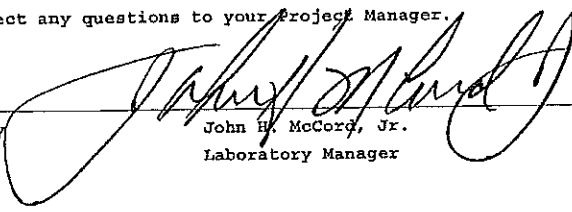
Project Number: 61576.08  
Report Date : January 22, 2013  
Page 2 of 41 Report ID: AL231

### Certificate of Analysis Report

Sample ID	Client ID	Date Collected	Date Received
L13010817-01	MW-200	01/08/2013 0800	01/08/2013
L13010817-02	RW-111	01/08/2013 1015	01/08/2013
L13010817-03	RW-110	01/08/2013 1115	01/08/2013

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



# LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : January 22, 2013  
Page 3 of 41 Report ID: AL231

## Certificate of Analysis

Client ID: MW-200  
Sample ID: L13010817-01

Date Collected: 01/08/2013 0800  
Date Received : 01/08/2013

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
EPA 8260B SIM				
Date/Time: 01/11/2013 1216 Analyst: JVB Dilution: 1				
1,4-DIOXANE	<	2.00 U	2.00	ug/l
Surr: 1,4-DIOXANE-D8		94 %	(61-131)	
SN846 8260B				
Date/Time: 01/09/2013 1456 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

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Page 4 of 41 Report ID: AL231

### Certificate of Analysis

Client ID: MW-200  
Sample ID: L13010817-01

Date Collected: 01/08/2013 0800  
Date Received : 01/08/2013

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)	



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Report Date : January 22, 2013  
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### Certificate of Analysis

Client ID: RW-111  
Sample ID: L13010817-02

Date Collected: 01/08/2013 1015  
Date Received : 01/08/2013

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
EPA 8260B SIM				
Date/Time: 01/11/2013 0958 Analyst: JVB Dilution: 1				
1,4-DIOXANE	<	2.00 U	2.00	ug/l
Surr: 1,4-DIOXANE-D8		101 %	(61-131)	
SW846 8260B				
Date/Time: 01/09/2013 1522 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

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Project Number: 61576.08  
Report Date : January 22, 2013  
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### Certificate of Analysis

Client ID: RW-111  
Sample ID: L13010817-02

Date Collected: 01/08/2013 1015  
Date Received : 01/08/2013

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		103 %	(77-133)	
Surr: TOLUENE-D8		101 %	(77-131)	

#### Wet Chemistry

##### EPA 353.2

Date/Time: 01/10/2013 1325 Analyst: LVICKERY Dilution: 1  
NITRATE + NITRITE NITROGEN (AS N) < 0.0200 U 0.0200 mg/l

##### SM 2320B

Date/Time: 01/17/2013 1404 Analyst: CDC Dilution: 1  
ALKALINITY, TOTAL 69.7 1.00 mg/l  
ENDPOINT PH 4.50 su

##### SM 4500-S2-D

Date/Time: 01/14/2013 1634 Analyst: CDC Dilution: 1  
SULFIDE, TOTAL < 0.0500 U 0.0500 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: 61576.08

Report Date : January 22, 2013  
Page 7 of 41 Report ID: AL231

## Certificate of Analysis

Client ID: RW-111  
Sample ID: L13010817-02

Date Collected: 01/08/2013 1015  
Date Received : 01/08/2013

Parameter	Result	Qual	RDL	Units
SW846 9056A				
Date/Time: 01/16/2013 2339 Analyst: CDC Dilution: 1				
SULFATE	11.3		1.00	mg/l



# LABORATORY ANALYSIS REPORT

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SUITE 170  
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Contact : BRYON DAHLGREN

Project Number: 61576.08  
Report Date : January 22, 2013  
Page 8 of 41 Report ID: AL231

## Certificate of Analysis

Client ID: RW-110  
Sample ID: L13010817-03

Date Collected: 01/08/2013 1115  
Date Received : 01/08/2013

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Volatile Organics  
EPA 8260B SIM

Date/Time: 01/11/2013 1121	Analyst: JVB	Dilution: 1		
1,4-DIOXANE	3.60		2.00	ug/l
Surr: 1,4-DIOXANE-D8	106 %		(61-131)	

SW046 8260B

Date/Time: 01/09/2013 1548	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		118	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		5.74	5.00	ug/l
CHLOROMETHANE	<	10.0 U	10.0	ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U	5.00	ug/l

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SUITE 170  
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Project Number: 61576.08  
Report Date : January 22, 2013  
Page 9 of 41 Report ID: AL231

### Certificate of Analysis

Client ID: RW-110  
Sample ID: L13010817-03

Date Collected: 01/08/2013 1115  
Date Received : 01/08/2013

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		99 %		(77-133)	
Surr: TOLUENE-D8		99 %		(77-131)	

#### Wet Chemistry

##### EPA 353.2

Date/Time: 01/10/2013 1332 Analyst: LVICKERY Dilution: 1  
NITRATE + NITRITE NITROGEN (AS N) 1.45 0.0200 mg/l

##### SM 2320B

Date/Time: 01/17/2013 1410 Analyst: CDC Dilution: 1  
ALKALINITY, TOTAL 67.7 2.00 mg/l  
ENDPOINT PH 4.50 su

##### SM 4500-S2-D

Date/Time: 01/14/2013 1635 Analyst: CDC Dilution: 1  
SULFIDE, TOTAL < 0.0500 U 0.0500 mg/l

SC Certification Number: 24110001

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

Project Number: 61576.08  
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### Certificate of Analysis

Client ID: RW-110  
Sample ID: L13010817-03

Date Collected: 01/08/2013 1115  
Date Received : 01/08/2013

Parameter	Result	Qual	RDL	Units
SW046 9056A				
Date/Time: 01/17/2013 0009 Analyst: CDC Dilution: 1				
SULFATE	6.99		1.00	mg/l

*SC Certification Number: 24110001*

Client : AECOM  
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*QC Summary Data*

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

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### QC Batch Report - Batch Sample List

WorkGroup : WG64116  
 Description: VO/DIOXANE/SIM

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: EPA 8260B SIM

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L13010817-01	MW-200	1		01/11/2013 1216	JVB	1
L13010817-02	RW-111	1		01/11/2013 0958	JVB	1
L13010817-03	RW-110	1		01/11/2013 1121	JVB	1
MB64116:1	Method Blank	1		01/11/2013 0924	JVB	1
LCS64116:1	Laboratory Control Spike	1		01/11/2013 1405	JVB	1
MS13010817-02:64116	Matrix Spike	1		01/11/2013 1311	JVB	1
MSD13010817-02:64116	Matrix Spike Duplicate	1		01/11/2013 1338	JVB	1





# LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM  
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## QC Batch Report - Surrogates % Recovery

WorkGroup: WG64116

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 8260B SIM

SampleNumber	MeasureDate	DOXD8
		61-131
L13010817-01	01/11/2013 1216	94
L13010817-02	01/11/2013 0958	101
L13010817-03	01/11/2013 1121	106
MB64116:1	01/11/2013 0924	105
LCS64116:1	01/11/2013 1405	93
MS13010817-02:64116	01/11/2013 1311	89
MSD13010817-02:64116	01/11/2013 1338	88

DOXD8 - 1,4-DIOXANE-D8

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Client : AECOM  
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### QC Batch Report - Method Blanks

WorkGroup: WG64116  
Blank : MB64116:1

Parameter	Result	Qual	RDL	Units
<i>Matrix : GW/ChemW</i>				
<i>Volatile Organics</i>				
<i>EPA 8260B SIM</i>				
<i>Date/Time: 01/11/2013 0924 Analyst: JVB Dilution: 1</i>				
1,4-DIOXANE	<	2.00 U	2.00	ug/l
Surr: 1,4-DIOXANE-DB		105 %	(61-131)	

SC Certification Number: 24110001

Client : AECOM  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64116  
 MS/MSD : MS13010817-02:64116  
 MSD13010817-02:64116

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: EPA 8260B SIM

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
1,4-DIOXANE	100.0	< 2.00	89.27	ug/l	89	56-150

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	%RPD	Limits %RPD	%REC
1,4-DIOXANE	100.0	90.54	ug/l	91	1	20	56-150

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



# LABORATORY ANALYSIS REPORT

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Client : ABCOM  
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## QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64116  
LCS : LCS64116:1

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 8260B SIM

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
1,4-DIOXANE	100.0	93.46	ug/l	93	62-140

SC Certification Number: 24110001

Client : AECOM  
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### QC Batch Report - Batch Sample List

WorkGroup : WG64093  
 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		
L13010817-01	MW-200	1		01/09/2013 1456	JVB	1
L13010817-02	RW-111	1		01/09/2013 1522	JVB	1
L13010817-03	RW-110	1		01/09/2013 1548	JVB	1
MB64093:1	Method Blank	1		01/09/2013 1221	JVB	1
LCS64093:1	Laboratory Control Spike	1		01/09/2013 2006	JVB	1
MS13010817-01:64093	Matrix Spike	1		01/09/2013 1914	JVB	1
MSD13010817-01:64093	Matrix Spike Duplicate	1		01/09/2013 1940	JVB	1



# LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM  
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## QC Batch Report - Surrogates % Recovery

WorkGroup: WG64093

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

SampleNumber	MeasureDate	DCA	BFB	TOL
		74-140	77-133	77-131
L13010817-01	01/09/2013 1456	99	98	100
L13010817-02	01/09/2013 1522	100	103	101
L13010817-03	01/09/2013 1548	99	99	99
MB64093:1	01/09/2013 1221	101	100	100
LCS64093:1	01/09/2013 2006	95	99	99
MS13010817-01:64093	01/09/2013 1914	94	95	97
MSD13010817-01:64093	01/09/2013 1940	96	99	101

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

SC Certification Number: 24110001

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### QC Batch Report - Method Blanks

WorkGroup: WG64093  
 Blank : MB64093:1

Parameter	Result	Qual	RDL	Units
<b>Matrix : GW/ChemW</b>				
<b>Volatile Organics</b>				
<i>SW846 8260B</i>				
<i>Date/Time: 01/09/2013 1221</i>	<i>Analyst: JVB</i>		<i>Dilution: 1</i>	
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

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### QC Batch Report - Method Blanks

WorkGroup: WG64093  
 Blank : MB64093:1

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		101 %	(74-140)	
Surr: BROMOFLUOROBENZENE		100 %	(77-133)	
Surr: TOLUENE-D8		100 %	(77-131)	



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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64093  
MS/MSD : MS13010817-01:64093  
MSD13010817-01:64093

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

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS RECD	Limits RECD
1,1,1-TRICHLOROETHANE	50.00	< 5.00	47.26	ug/l	95	75-121
1,1,2,2-TETRACHLOROETHANE	50.00	< 5.00	48.84	ug/l	98	78-114
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	< 10.00	49.36	ug/l	99	64-130
1,1,2-TRICHLOROETHANE	50.00	< 5.00	50.53	ug/l	101	78-113
1,1-DICHLOROETHANE	50.00	< 5.00	46.68	ug/l	93	76-116
1,1-DICHLOROETHENE	50.00	< 5.00	47.30	ug/l	95	71-127
1,2,3-TRICHLOROBENZENE	50.00	< 5.00	49.08	ug/l	98	75-112
1,2,4-TRICHLOROBENZENE	50.00	< 5.00	49.50	ug/l	99	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	< 5.00	49.38	ug/l	99	73-124
1,2-DIBROMOETHANE	50.00	< 5.00	50.18	ug/l	100	79-114
1,2-DICHLOROBENZENE	50.00	< 5.00	55.14	ug/l	110	76-109
1,2-DICHLOROETHANE	50.00	< 5.00	46.69	ug/l	93	74-122
1,2-DICHLOROPROPANE	50.00	< 5.00	50.24	ug/l	100	79-113
1,3-DICHLOROBENZENE	50.00	< 5.00	54.62	ug/l	109	69-118
1,4-DICHLOROBENZENE	50.00	< 5.00	48.62	ug/l	97	74-108
2-BUTANONE	50.00	< 10.00	47.90	ug/l	96	68-134
2-HEXANONE	50.00	< 10.00	50.85	ug/l	102	70-133
4-METHYL-2-PENTANONE	50.00	< 5.00	50.73	ug/l	101	69-135
ACETONE	50.00	< 10.00	47.68	ug/l	95	64-149
BENZENE	50.00	< 5.00	49.98	ug/l	100	77-114
BROMODICHLOROMETHANE	50.00	< 5.00	50.94	ug/l	102	76-123
BROMOFORM	50.00	< 5.00	50.51	ug/l	101	74-124
BROMOMETHANE	50.00	< 10.00	43.26	ug/l	87	64-121
CARBON DISULFIDE	50.00	< 5.00	41.31	ug/l	83	59-124
CARBON TETRACHLORIDE	50.00	< 5.00	46.81	ug/l	94	72-126
CHLOROENZENE	50.00	< 5.00	55.62	ug/l	111	74-113
CHLOROETHANE	50.00	< 10.00	43.28	ug/l	87	71-121
CHLOROFORM	50.00	< 5.00	47.24	ug/l	94	76-119
CHLOROMETHANE	50.00	< 10.00	45.97	ug/l	92	59-123
CIS-1,2-DICHLOROETHENE	50.00	< 5.00	46.02	ug/l	92	74-118
CIS-1,3-DICHLOROPROPENE	50.00	< 5.00	54.49	ug/l	109	83-125
CYCLOHEXANE	50.00	< 5.00	47.70	ug/l	95	59-126
DIBROMOCHLOROMETHANE	50.00	< 5.00	50.72	ug/l	101	77-121
DICHLORODIFLUOROMETHANE	50.00	< 5.00	45.12	ug/l	90	53-141
ETHYLBENZENE	50.00	< 5.00	49.80	ug/l	100	70-130
ISOPROPYL BENZENE	50.00	< 5.00	55.74	ug/l	111	74-114
METHYL ACETATE	50.00	< 10.00	49.41	ug/l	99	68-122
METHYL-TERT-BUTYL ETHER	50.00	< 5.00	48.41	ug/l	97	74-119

SC Certification Number: 24110001

Client : AECOM  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64093  
MS/MSD : MS13010817-01:64093  
MSD13010817-01:64093

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: SWB46 8260B

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
METHYLCYCLOHEXANE	50.00	< 5.00	50.76	ug/l	102	61-126
METHYLENE CHLORIDE	50.00	< 5.00	46.11	ug/l	92	71-115
STYRENE	50.00	< 5.00	50.49	ug/l	101	75-116
TETRACHLOROETHENE	50.00	< 5.00	49.95	ug/l	100	69-121
TOLUENE	50.00	< 5.00	49.77	ug/l	100	74-115
TRANS-1,2-DICHLOROETHENE	50.00	< 5.00	45.39	ug/l	91	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	< 5.00	48.80	ug/l	98	73-112
TRICHLOROETHENE	50.00	< 5.00	49.63	ug/l	99	74-120
TRICHLOROFLUOROMETHANE	50.00	< 5.00	49.48	ug/l	99	70-134
VINYL ACETATE	50.00	< 10.00	46.99	ug/l	94	59-146
VINYL CHLORIDE	50.00	< 10.00	43.38	ug/l	87	63-124
XYLENE (TOTAL)	150.0	< 5.00	161.4	ug/l	108	73-116

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	RPD %RPD	Limits %RPD	%REC
1,1,1-TRICHLOROETHANE	50.00	48.17	ug/l	96	2	16	75-121
1,1,2,2-TETRACHLOROETHANE	50.00	49.46	ug/l	99	1	18	78-114
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	50.24	ug/l	100	2	18	64-130
1,1,2-TRICHLOROETHANE	50.00	52.06	ug/l	104	3	14	78-113
1,1-DICHLOROETHANE	50.00	47.43	ug/l	95	2	15	76-116
1,1-DICHLOROETHENE	50.00	48.30	ug/l	97	2	16	71-127
1,2,3-TRICHLOROBENZENE	50.00	49.01	ug/l	98	0	20	75-112
1,2,4-TRICHLOROBENZENE	50.00	49.44	ug/l	99	0	18	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	48.07	ug/l	96	3	20	73-124
1,2-DIBROMOETHANE	50.00	51.67	ug/l	103	3	16	79-114
1,2-DICHLOROBENZENE	50.00	55.18	ug/l	110	0	15	76-109
1,2-DICHLOROETHANE	50.00	48.27	ug/l	97	3	16	74-122
1,2-DICHLOROPROPANE	50.00	50.98	ug/l	102	1	15	79-113
1,3-DICHLOROBENZENE	50.00	55.77	ug/l	112	2	17	69-118
1,4-DICHLOROBENZENE	50.00	48.75	ug/l	98	0	16	74-108
2-BUTANONE	50.00	46.93	ug/l	94	2	20	68-134
2-HEXANONE	50.00	50.04	ug/l	100	2	20	70-133
4-METHYL-2-PENTANONE	50.00	50.03	ug/l	100	1	19	69-135
ACETONE	50.00	45.76	ug/l	92	4	23	64-149
BENZENE	50.00	50.33	ug/l	101	1	15	77-114
BROMODICHLOROMETHANE	50.00	51.87	ug/l	104	2	16	76-123
BROMOFORM	50.00	50.93	ug/l	102	1	17	74-124
BROMOMETHANE	50.00	47.12	ug/l	94	9	22	64-121

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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64093  
MS/MSD : MS13010817-01:64093  
MSD13010817-01:64093

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

Parameter	Spike Added	MSD Conc	Units	MSD		Limits	
				%REC	%RPD	%RPD	%REC
CARBON DISULFIDE	50.00	44.11	ug/l	88	7	21	59-124
CARBON TETRACHLORIDE	50.00	48.51	ug/l	97	4	18	72-126
CHLOROBENZENE	50.00	56.16	ug/l	112	1	15	74-113
CHLOROETHANE	50.00	44.70	ug/l	89	3	17	71-121
CHLOROFORM	50.00	48.31	ug/l	97	2	14	76-119
CHLOROMETHANE	50.00	46.83	ug/l	94	2	18	59-123
CIS-1,2-DICHLOROETHENE	50.00	47.72	ug/l	95	4	15	74-118
CIS-1,3-DICHLOROPROPENE	50.00	55.66	ug/l	111	2	16	83-125
CYCLOHEXANE	50.00	48.30	ug/l	97	1	17	59-126
DIBROMOCHLOROMETHANE	50.00	52.27	ug/l	105	3	16	77-121
DICHLORODIFLUOROMETHANE	50.00	45.61	ug/l	91	1	20	53-141
ETHYLBENZENE	50.00	50.41	ug/l	101	1	20	70-130
ISOPROPYL BENZENE	50.00	56.23	ug/l	112	1	17	74-114
METHYL ACETATE	50.00	48.35	ug/l	97	2	19	68-122
METHYL-TERT-BUTYL ETHER	50.00	49.02	ug/l	98	1	16	74-119
METHYLCYCLOHEXANE	50.00	50.50	ug/l	101	1	16	61-126
METHYLENE CHLORIDE	50.00	47.60	ug/l	95	3	17	71-115
STYRENE	50.00	51.05	ug/l	102	1	17	75-116
TETRACHLOROETHENE	50.00	50.43	ug/l	101	1	16	69-121
TOLUENE	50.00	50.39	ug/l	101	1	15	74-115
TRANS-1,2-DICHLOROETHENE	50.00	47.14	ug/l	94	4	16	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	50.24	ug/l	100	3	16	73-112
TRICHLOROETHENE	50.00	50.55	ug/l	101	2	15	74-120
TRICHLOROFLUOROMETHANE	50.00	50.29	ug/l	101	2	18	70-134
VINYL ACETATE	50.00	47.62	ug/l	95	1	19	59-146
VINYL CHLORIDE	50.00	44.15	ug/l	88	2	16	63-124
XYLENE (TOTAL)	150.0	164.3	ug/l	110	2	17	73-116

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

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : January 22, 2013  
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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64093  
LCS : LCS64093:1

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	47.70	ug/l	95	76-120
1,1,2,2-TETRACHLOROETHANE	50.00	49.54	ug/l	99	78-116
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	49.09	ug/l	98	65-125
1,1,2-TRICHLOROETHANE	50.00	50.99	ug/l	102	78-117
1,1-DICHLOROETHANE	50.00	47.11	ug/l	94	75-117
1,1-DICHLOROETHENE	50.00	47.22	ug/l	94	72-125
1,2,3-TRICHLOROBENZENE	50.00	52.56	ug/l	105	75-113
1,2,4-TRICHLOROBENZENE	50.00	51.35	ug/l	103	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	49.02	ug/l	98	77-122
1,2-DIBROMOETHANE	50.00	51.09	ug/l	102	80-116
1,2-DICHLOROBENZENE	50.00	56.76	ug/l	114	76-110
1,2-DICHLOROETHANE	50.00	47.33	ug/l	95	75-121
1,2-DICHLOROPROPANE	50.00	50.46	ug/l	101	79-115
1,3-DICHLOROBENZENE	50.00	56.34	ug/l	113	74-113
1,4-DICHLOROBENZENE	50.00	49.84	ug/l	100	74-109
2-BUTANONE	50.00	45.34	ug/l	91	72-129
2-HEXANONE	50.00	48.21	ug/l	96	73-132
4-METHYL-2-PENTANONE	50.00	48.95	ug/l	98	75-131
ACETONE	50.00	43.95	ug/l	88	70-138
BENZENE	50.00	50.40	ug/l	101	77-116
BROMODICHLOROMETHANE	50.00	51.49	ug/l	103	79-120
BROMOFORM	50.00	51.49	ug/l	103	79-121
BROMOMETHANE	50.00	45.16	ug/l	90	67-122
CARBON DISULFIDE	50.00	42.41	ug/l	85	59-125
CARBON TETRACHLORIDE	50.00	47.57	ug/l	95	74-124
CHLOROBENZENE	50.00	55.58	ug/l	111	75-113
CHLOROETHANE	50.00	43.97	ug/l	88	73-120
CHLOROFORM	50.00	48.06	ug/l	96	75-121
CHLOROMETHANE	50.00	45.77	ug/l	92	60-122
CIS-1,2-DICHLOROETHENE	50.00	47.02	ug/l	94	74-119
CIS-1,3-DICHLOROPROPENE	50.00	54.70	ug/l	109	83-126
CYCLOHEXANE	50.00	47.67	ug/l	95	60-123
DIBROMOCHLOROMETHANE	50.00	52.05	ug/l	104	779-121
DICHLORODIFLUOROMETHANE	50.00	44.29	ug/l	89	55-139
ETHYLBENZENE	50.00	50.15	ug/l	100	70-130
ISOPROPYL BENZENE	50.00	56.43	ug/l	113	74-113
METHYL ACETATE	50.00	47.05	ug/l	94	67-123
METHYL-TERT-BUTYL ETHER	50.00	48.50	ug/l	97	75-120

SC Certification Number: 24110001

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

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Report Date : January 22, 2013  
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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64093  
 LCS : LCS64093:1

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

Parameter	Spike Added	LCB Conc	Units	LCB %REC	Limits %REC
METHYLCYCLOHEXANE	50.00	50.36	ug/l	101	62-123
METHYLENE CHLORIDE	50.00	47.67	ug/l	95	70-120
STYRENE	50.00	50.94	ug/l	102	78-113
TETRACHLOROETHENE	50.00	50.62	ug/l	101	70-120
TOLUENE	50.00	50.43	ug/l	101	75-116
TRANS-1,2-DICHLOROETHENE	50.00	47.37	ug/l	95	73-121
TRANS-1,3-DICHLOROPROPENE	50.00	49.45	ug/l	99	73-114
TRICHLOROETHENE	50.00	50.30	ug/l	101	75-119
TRICHLOROFLUOROMETHANE	50.00	49.39	ug/l	99	71-128
VINYL ACETATE	50.00	48.20	ug/l	96	65-142
VINYL CHLORIDE	50.00	43.69	ug/l	87	64-122
XYLENE (TOTAL)	150.0	164.3	ug/l	110	73-116

SC Certification Number: 24110001

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

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### QC Batch Report - Batch Sample List

WorkGroup : WG64104  
Description: WC/NO3NO2 (5)

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 353.2

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L13010817-02	RW-111	1		01/10/2013 1325	LVICKERY	1
L13010817-03	RW-110	1		01/10/2013 1332	LVICKERY	1
MB64104:1	Method Blank	1		01/10/2013 1300	LVICKERY	1
LCS64104:1	Laboratory Control Spike	1		01/10/2013 1253	LVICKERY	1
MS13010817-02:64104	Matrix Spike	1		01/10/2013 1327	LVICKERY	1
MSD13010817-02:64104	Matrix Spike Duplicate	1		01/10/2013 1329	LVICKERY	1

SC Certification Number: 24110001

Client : AECOM  
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SUITE 170  
ROSWELL, GA 30076  
Contact : BRYON DAHLGREN

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### QC Batch Report - Method Blanks

WorkGroup: WG64104  
Blank : MB64104:1

Parameter	Result	Qual	RDL	Units
<i>Matrix : GH/ChemW</i>				
<i>Wet Chemistry</i>				
<i>EPA 353.2</i>				
<i>Date/Time: 01/10/2013 1300 Analyst: LVICKERY Dilution: 1</i>				
NITRATE + NITRITE NITROGEN (AS N)	<	0.0200	U	0.0200 mg/l

SC Certification Number: 24110001

Client : AECOM  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64104  
 MS/MSD : MS13010817-02:64104  
 MSD13010817-02:64104

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: EPA 353.2

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
NITRATE + NITRITE NITROGEN (AS N)	0.500	< 0.0200	0.504	mg/l	101	90-110

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	%RPD	Limits %RPD	%RBC
NITRATE + NITRITE NITROGEN (AS N)	0.500	0.500	mg/l	100	1	10	90-110

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



SC Certification Number: 24110001

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

Project Number: 61576.08

Report Date : January 22, 2013  
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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64104  
LCS : LCS64104:1

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 353.2

Parameter	Spike Added	LCS Conc	Units	LCS REC	Limits REC
NITRATE + NITRITE NITROGEN (AS N)	0.500	0.498	mg/l	100	90-110

SC Certification Number: 24110001

Client : AECOM  
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 SUITE 170  
 ROSWELL, GA 30076  
 Contact : BRYON DAHLGREN

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### QC Batch Report - Batch Sample List

WorkGroup : WG64160  
 Description: Alkalinity-GW

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

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L13010817-02	RW-111	1		01/17/2013 1404	CDC	1
L13010817-03	RW-110	1		01/17/2013 1410	CDC	1
D13010817-02:64160	Duplicate	1		01/17/2013 1406	CDC	1
MB64160:1	Method Blank	1		01/17/2013 0930	CDC	1
LCS64160:1	Laboratory Control Spike	1		01/17/2013 0937	CDC	1

SC Certification Number: 24110001

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

Project Number: 61576.08  
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### QC Batch Report - Method Blanks

WorkGroup: WG64160  
Blank : MB64160.1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SM 2320B				
Date/Time: 01/17/2013 0930 Analyst: CDC Dilution: 1				
ALKALINITY, TOTAL	<	1.00 U	1.00	mg/l
ENDPOINT PH		4.20		su

SC Certification Number: 24110001

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

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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64160  
LCS : LCS64160:1

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

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

SC Certification Number: 24110001

Client : AECOM  
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SUITE 170  
ROSWELL, GA 30076  
Contact : BRYON DAHLGREN

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### QC Batch Report - Sample Duplicates

WorkGroup: WG64160  
Duplicate: D13010817-02:64160

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

Parameter	Sample Conc	DUP Conc	RDL	Units	%RPD	RPD
ALKALINITY, TOTAL	69.70	68.68	2.00	mg/l	1	10

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

SC Certification Number: 24110001

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

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### QC Batch Report - Batch Sample List

WorkGroup : WG64142  
 Description: Sulfide-GW

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: SM 4500-S2-D

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
LL13010817-02	RW-111	1		01/14/2013 1634	CDC	1
LL13010817-03	RW-110	1		01/14/2013 1635	CDC	1
MB64142:1	Method Blank	1		01/14/2013 1640	CDC	1
LCS64142:1	Laboratory Control Spike	1		01/14/2013 1633	CDC	1
MS13010817-02:64142	Matrix Spike	1		01/14/2013 1638	CDC	1
MSD13010817-02:64142	Matrix Spike Duplicate	1		01/14/2013 1639	CDC	1

SC Certification Number: 24110001

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

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### QC Batch Report - Method Blanks

WorkGroup: WG64142  
Blank : MB64142:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SM 4500-S2-D				
Date/Time: 01/14/2013 1640 Analyst: CDC Dilution: 1				
SULFIDE, TOTAL	<	0.0500	U	0.0500 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: 61576.08  
Report Date : January 22, 2013  
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## QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64142  
MS/MSD : MS13010817-02:64142  
MSD13010817-02:64142

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: SM 4500-S2-D

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
SULFIDE, TOTAL	0.500	< 0.0500	0.496	mg/l	99	81-121

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	%RPD	Limits %RPD	%RBC
SULFIDE, TOTAL	0.500	0.497	mg/l	99	0	10	81-121

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: 61576.08  
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## QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64142  
LCS : LCS64142:1

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: SM 4500-S2-D

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
SULFIDE, TOTAL	0.500	0.481	mg/l	96	90-110



# LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : January 22, 2013  
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## QC Batch Report - Batch Sample List

WorkGroup : WG64145  
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		
LL3010817-02	RW-111	1		01/16/2013 2339	CDC	1
LL3010817-03	RW-110	1		01/17/2013 0009	CDC	1
MB64145:1	Method Blank	1		01/16/2013 1454	CDC	1
LCS64145:1	Laboratory Control Spike	1		01/16/2013 1524	CDC	1
MS13010817-03:64145	Matrix Spike	1		01/17/2013 0141	CDC	1
MSD13010817-03:64145	Matrix Spike Duplicate	1		01/17/2013 0211	CDC	1



# LABORATORY ANALYSIS REPORT

SC Certification Number: 24110001

Client : AECOM  
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Contact : BRYON DAHLGREN

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## QC Batch Report - Method Blanks

WorkGroup: WG64145  
Blank : MB64145:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Wet Chemistry				
SWB46 9056A				
Date/Time: 01/16/2013 1454 Analyst: CDC Dilution: 1				
SULFATE	<	1.00 U	1.00	mg/l

SC Certification Number: 24110001

Client : AECOM  
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 SUITE 170  
 ROSWELL, GA 30076  
 Contact : BRYON DAHLGREN

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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64145  
 MS/MSD : MS13010817-03:64145  
 MSD13010817-03:64145

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

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
SULFATE	10.00	6.99	17.26	mg/l	103	80-120

Parameter	Spike Added	MSD Conc	MSD Units	MSD %RBC	MSD %RPD	Limits %RPD	Limits %REC
SULFATE	10.00	16.97	mg/l	100	2	15	80-120

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: 61576.08

Report Date : January 22, 2013  
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## QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64145  
LCS : LCS64145:1

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

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
SULFATE	10.00	9.90	mg/l	99	80-120

**Explanation of Symbols and Abbreviations**

The following defines common symbols and abbreviations used in reporting technical data:

RDL	Report Detection Limit	MDL	Method Detection Limit
PQL	Practical Quantitation Limit	DL	Detection Limit
LOQ	Limit of Quantitation	LOD	Limit of Detection
SQL	Sample Quantitation Limit	TIC	Tentatively Identified Compound
C	Degrees Centigrade	F	Degrees Fahrenheit
umhos/cm	micromhos/cm	meq	milliequivalents
su	Standard Units		

**mg/l, mg/kg** Units of concentration in milligrams per liter for liquids and milligrams per kilogram for solids. Also referred to as Parts Per Million or "ppm".

**ug/l, ug/kg** Units of concentration in micrograms per liter for liquids and micrograms per kilograms for solids. Also referred to as Parts Per Billion or "ppb".

**<** Less Than

**>** Greater Than

Solid samples (i.e. soil, sludge, and solid waste) are reported on an as received basis unless otherwise noted.

**Data Qualifiers:**

- B** Analyte also detected in the method blank.
- C** Amendable Cyanide is a negative value due to an unknown interference.
- F** Surrogate Standard Recovery exceeds the laboratory established acceptance limits.
- J** The reported result is an estimated value (eg matrix interference observed or concentration outside the quantitation range).
- N** Non-target analyte. The analyte is TIC (using mass spectrometry).
- P** Concentration difference between primary and confirmation columns >40%.
- Q** One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV)
- U** Final concentration is below the detection limit.
- \*** Defined in report comments.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or biological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of the material involved, the test results will be meaningless. If you have any questions regarding the proper techniques of collecting samples, please contact us. However, we cannot be held responsible for sample integrity unless sampling has been performed by a member of our staff.

**REPRESENTATION AND LIMITATION OF LIABILITY** – The accuracy of all analytical results for samples begins as it is received by the laboratory. Integrity of the sample begins at the time it is placed in the possession of authorized Davis & Floyd, Inc. Laboratories personnel. All other warranties, expressed or implied, are disclaimed. Liability is limited to the cost of the analysis.

*Davis & Floyd, Inc.  
AD07\_06 (01/12)*

## Chain of Custody Record

Client: **AECOM** Project / Site Location: **061576.07** Laboratory Certification Numbers: **SC - 24110, NC - 25, NEIAP - E87633, TN - 2923, VA - 17** Office Use Only  
 Report To: **Auriga Polymers - Solbg, SC** Copy To: **Bryon Dahlgren** 816 E. Durst Avenue, Greenwood, SC 29649 (864) 229-4413 Fax (864) 229-7119 Laboratory Work Request  
 Email: [Laboratory@davisfloyd.com](mailto:Laboratory@davisfloyd.com) Internet: [www.davisfloyd.com](http://www.davisfloyd.com)

Collected By: **Mark Hartford** Reporting Requirements: [ ] Standard [ ] Data Package (Specify Level: 1 2 3 4) PO / Quote Number: **0**  
 Special Instructions: **113010817**

Sample Description	Date Initiated	Sample Collection Date	Composite		Number of Containers		PARAMETERS			CONTAINERS	Comments	Fraction
			Grab	Matrix Type	Total	Net	VOC's Method 8260	SO4, Alkalinity, NO2	Sulfide			
MW-200		1-8-13 800	X	5	3		A	A	E/G	B	C	01
RW-111		1-8-13 1015	X	5	3		1	1	1			02
RW-110		1-8-13 1115	X	5	3		1	1	1			03

Relinquished By	Date	Time	Relinquished By	Date	Time	Relinquished By	Date	Time	Relinquished By	Date	Time
<i>[Signature]</i>	1-8-13	1330	<i>[Signature]</i>	08/27/13	1615	<i>[Signature]</i>	11/25/13	1813	<i>[Signature]</i>	11/15	

Comments: \_\_\_\_\_

Sample Chamber Temp. at Harvest: \_\_\_\_\_ Circle: C or F

Flow Measurement (Note 1): \_\_\_\_\_

Start Date: \_\_\_\_\_ Multiplier: \_\_\_\_\_

Shipping Information: \_\_\_\_\_

Receipt Information: \_\_\_\_\_

On Ice:  Yes  No Temp (C): 4

Immediate Delivery:  Yes  No

Custody Seal:  Intact /  Broken /  Missing

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 - Zn Acetate  
 (Note 1) For Discharge Measurements  
 Davis & Floyd, Inc. F.02\_03 (04/10)





February 14, 2013

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

Report ID : AL407  
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Login Number	:L13012902
Project Number	:61576.08
Description	:AURIGA POLYMERS - SPARTANBURG, SC

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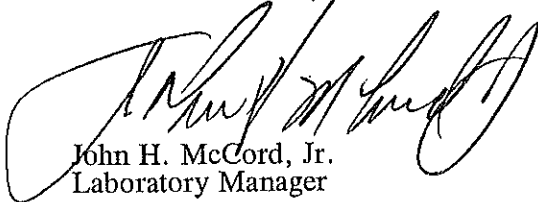
Dear Bryon Dahlgren:

We are pleased to provide the enclosed analytical results for the samples received by Davis & Floyd, Inc. on January 29, 2013.

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 25 pages, including attachments.

Initials: 

SC Certification Number: 24110001

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

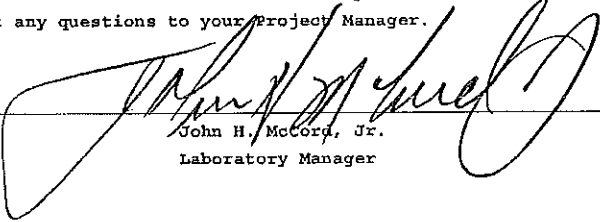
Project Number: 61576.08  
Report Date : February 14, 2013  
Page 2 of 23 Report ID: AL407

### Certificate of Analysis Report

Sample ID	Client ID	Date Collected	Date Received
L13012902-01	MW-200	01/28/2013 0900	01/29/2013
L13012902-02	RW-110	01/28/2013 1200	01/29/2013
L13012902-03	RW-111	01/28/2013 1415	01/29/2013

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  
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 Report Date : February 14, 2013  
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### Certificate of Analysis

Client ID: MW-200  
 Sample ID: L13012902-01

Date Collected: 01/28/2013 0900  
 Date Received : 01/29/2013

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Volatile Organics  
 EPA 8260B SIM

Date/Time: 02/06/2013 1044 Analyst: JVB Dilution: 1

1,4-DIOXANE	<	2.00	U	2.00	ug/l
Surr: 1,4-DIOXANE-D8		103 %		(61-131)	

SW846 8260B

Date/Time: 02/04/2013 1341 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

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### Certificate of Analysis

Client ID: MW-200  
Sample ID: L13012902-01

Date Collected: 01/28/2013 0900  
Date Received : 01/29/2013

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		103 %	(74-140)	
Surr: BROMOFLUOROBENZENE		98 %	(77-133)	
Surr: TOLUENE-D8		102 %	(77-131)	

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### Certificate of Analysis

Client ID: RW-110  
Sample ID: L13012902-02

Date Collected: 01/28/2013 1200  
Date Received : 01/29/2013

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Volatile Organics  
EPA 8260B SIM

Date/Time: 02/06/2013 1112	Analyst: JVB	Dilution: 1
1,4-DIOXANE	<	2.00 U 2.00 ug/l
Surr: 1,4-DIOXANE-D8		93 % (61-131)

SW846 8260B

Date/Time: 02/04/2013 1407	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	<	10.0 U 10.0 ug/l
CHLOROBENZENE	<	5.00 U 5.00 ug/l
CHLOROETHANE	<	10.0 U 10.0 ug/l
CHLOROFORM	<	6.49 5.00 ug/l
CHLOROMETHANE	<	10.0 U 10.0 ug/l
CIS-1,2-DICHLOROETHENE	<	5.00 U 5.00 ug/l

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### Certificate of Analysis

Client ID: RW-110  
Sample ID: L13012902-02

Date Collected: 01/28/2013 1200  
Date Received : 01/29/2013

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		97 %	(77-133)	
Surr: TOLUENE-D8		100 %	(77-131)	

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### Certificate of Analysis

Client ID: RW-111  
Sample ID: L13012902-03

Date Collected: 01/28/2013 1415  
Date Received : 01/29/2013

Parameter	Result	Qual	RDL	Units
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Matrix : GW/ChemW

Volatile Organics  
EPA 8260B SIM

Date/Time: 02/06/2013 1139	Analyst: JVB	Dilution: 1
1,4-DIOXANE	<	2.00 U 2.00 ug/l
Surr: 1,4-DIOXANE-DB		92 % (61-131)

SW846 8260B

Date/Time: 02/04/2013 1433	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

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### Certificate of Analysis

Client ID: RW-111  
Sample ID: L13012902-03

Date Collected: 01/28/2013 1415  
Date Received : 01/29/2013

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		106 %	(74-140)	
Surr: BROMOFLUOROBENZENE		101 %	(77-133)	
Surr: TOLUENE-D8		103 %	(77-131)	



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SUITE 170  
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Project Number: 61576.08

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## *QC Summary Data*

SC Certification Number: 24110001

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

Project Number: 61576.08  
 Report Date : February 14, 2013  
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### QC Batch Report - Batch Sample List

WorkGroup : WG64272  
 Description: VO/DIOXANE/SIM

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: EPA 8260B SIM

Sample ID	Client ID	Run#	PREP	ANALYTICAL		Analyst	Dilution
			Date Time	Date Time			
L13012902-01	MW-200	1		02/06/2013 1044		JVB	1
L13012902-02	RW-110	1		02/06/2013 1112		JVB	1
L13012902-03	RW-111	1		02/06/2013 1139		JVB	1
MB64272:1	Method Blank	1		02/06/2013 0921		JVB	1
LCS64272:1	Laboratory Control Spike	1		02/06/2013 1900		JVB	1
MSL13012902-03:64272	Matrix Spike	1		02/06/2013 1642		JVB	1
MSD13012902-03:64272	Matrix Spike Duplicate	1		02/06/2013 1710		JVB	1

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### QC Batch Report - Surrogates % Recovery

WorkGroup: WG64272

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 8260B SIM

SampleNumber	MeasureDate	DOXD8
		61-131
L13012902-01	02/06/2013 1044	103
L13012902-02	02/06/2013 1112	93
L13012902-03	02/06/2013 1139	92
MB64272:1	02/06/2013 0921	95
LCS64272:1	02/06/2013 1900	95
MSL3012902-03:64272	02/06/2013 1642	94
MSD13012902-03:64272	02/06/2013 1710	95

DOXD8 - 1,4-DIOXANE-DB

SC Certification Number: 24110001

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SUITE 170  
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### QC Batch Report - Method Blanks

WorkGroup: WG64272  
Blank : MB64272:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
EPA 8260B SIM				
Date/Time: 02/06/2013 0921 Analyst: JVB Dilution: 1				
1,4-DIOXANE	<	2.00 U	2.00	ug/l
Surr: 1,4-DIOXANE-D8		95 %	(61-131)	

SC Certification Number: 24110001

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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64272  
 MS/MSD : MS13012902-03:64272  
 MSD13012902-03:64272

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: EPA 8260B SIM

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %REC
1,4-DIOXANE	100.0	< 2.00	90.88	ug/l	91	56-150

Parameter	Spike Added	MSD Conc	MSD Units	MSD %REC	MSD %RED	Limits %RED	Limits %REC
1,4-DIOXANE	100.0	97.40	ug/l	97	7	20	56-150

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  
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SUITE 170  
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Contact : BRYON DAHLGREN

Project Number: 61576.08  
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## QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64272  
LCS : LCS64272:1

Matrix : GW/ChemW  
Prep Method :  
Analytical Method: EPA 8260B SIM

Parameter	Spike Added	LCS Conc	Units	LCS %REC	Limits %REC
1,4-DIOXANE	100.0	94.69	ug/l	95	62-140

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### QC Batch Report - Batch Sample List

WorkGroup : WG64259  
 Description: VO/8260/TCL

Matrix : GW/ChemW  
 Prep Method :  
 Analytical Method: SWB46 8260B

Sample ID	Client ID	Run#	PREP	ANALYTICAL	Analyst	Dilution
			Date Time	Date Time		
L13012902-01	MW-200	1		02/04/2013 1341	JVB	1
L13012902-02	RW-110	1		02/04/2013 1407	JVB	1
L13012902-03	RW-111	1		02/04/2013 1433	JVB	1
MB64259:1	Method Blank	1		02/04/2013 1222	JVB	1
LCS64259:1	Laboratory Control Spike	1		02/04/2013 1616	JVB	1
MS13012902-02:64259	Matrix Spike	1		02/04/2013 1524	JVB	1
MSD13012902-02:64259	Matrix Spike Duplicate	1		02/04/2013 1550	JVB	1

SC Certification Number: 24110001

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 Contact : BRYON DAHLGREN

Project Number: 61576.08  
 Report Date : February 14, 2013  
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### QC Batch Report - Surrogates % Recovery

WorkGroup: WG64259

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

SampleNumber	MeasureDate	DCA	BFB	TOL
		74-140	77-133	77-131
L13012902-01	02/04/2013 1341	103	98	102
L13012902-02	02/04/2013 1407	104	97	100
L13012902-03	02/04/2013 1433	106	101	103
MB64259:1	02/04/2013 1222	99	97	99
LCS64259:1	02/04/2013 1616	104	101	102
MS13012902-02:64259	02/04/2013 1524	102	99	100
MSD13012902-02:64259	02/04/2013 1550	103	99	101

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



SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Method Blanks

WorkGroup: WG64259  
Blank : MB64259:1

Parameter	Result	Qual	RDL	Units
Matrix : GW/ChemW				
Volatile Organics				
SW846 8260B				
Date/Time: 02/04/2013 1222 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

SC Certification Number: 24110001

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

Project Number: 61576.08  
 Report Date : February 14, 2013  
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### QC Batch Report - Method Blanks

WorkGroup: WG64259  
 Blank : MB64259:1

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		97 %	(77-133)	
Surr: TOLUENE-D8		99 %	(77-131)	

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64259  
MS/MSD : MS13012902-02:64259  
MSD13012902-02:64259

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	51.50	ug/l	103	75-121
1,1,2,2-TETRACHLOROETHANE	50.00	< 5.00	49.71	ug/l	99	78-114
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	< 10.00	59.81	ug/l	120	64-130
1,1,2-TRICHLOROETHANE	50.00	< 5.00	50.05	ug/l	100	78-113
1,1-DICHLOROETHANE	50.00	< 5.00	50.67	ug/l	101	76-116
1,1-DICHLOROETHENE	50.00	< 5.00	51.78	ug/l	104	71-127
1,2,3-TRICHLOROBENZENE	50.00	< 5.00	47.98	ug/l	96	75-112
1,2,4-TRICHLOROBENZENE	50.00	< 5.00	48.07	ug/l	96	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	< 5.00	48.92	ug/l	98	73-124
1,2-DIBROMOETHANE	50.00	< 5.00	49.37	ug/l	99	79-114
1,2-DICHLOROBENZENE	50.00	< 5.00	54.03	ug/l	108	76-109
1,2-DICHLOROETHANE	50.00	< 5.00	50.93	ug/l	102	74-122
1,2-DICHLOROPROPANE	50.00	< 5.00	50.07	ug/l	100	79-113
1,3-DICHLOROBENZENE	50.00	< 5.00	53.93	ug/l	108	69-118
1,4-DICHLOROBENZENE	50.00	< 5.00	47.52	ug/l	95	74-108
2-BUTANONE	50.00	< 10.00	50.66	ug/l	101	68-134
2-HEXANONE	50.00	< 10.00	52.56	ug/l	105	70-133
4-METHYL-2-PENTANONE	50.00	< 5.00	51.17	ug/l	102	69-135
ACETONE	50.00	< 10.00	55.17	ug/l	110	64-149
BENZENE	50.00	< 5.00	49.70	ug/l	99	77-114
BROMODICHLOROMETHANE	50.00	< 5.00	49.89	ug/l	100	76-123
BROMOFORM	50.00	< 5.00	49.99	ug/l	100	74-124
BROMOMETHANE	50.00	< 10.00	49.55	ug/l	99	64-121
CARBON DISULFIDE	50.00	< 5.00	46.04	ug/l	92	59-124
CARBON TETRACHLORIDE	50.00	< 5.00	52.78	ug/l	106	72-126
CHLOROBENZENE	50.00	< 5.00	53.85	ug/l	108	74-113
CHLOROETHANE	50.00	< 10.00	53.12	ug/l	106	71-121
CHLOROFORM	50.00	6.49	56.97	ug/l	101	76-119
CHLOROMETHANE	50.00	< 10.00	53.03	ug/l	106	59-123
CIS-1,2-DICHLOROETHENE	50.00	< 5.00	50.14	ug/l	100	74-118
CIS-1,3-DICHLOROPROPENE	50.00	< 5.00	53.26	ug/l	107	83-125
CYCLOHEXANE	50.00	< 5.00	55.75	ug/l	112	59-126
DIBROMOCHLOROMETHANE	50.00	< 5.00	50.46	ug/l	101	77-121
DICHLORODIFLUOROMETHANE	50.00	< 5.00	54.15	ug/l	108	53-141
ETHYLBENZENE	50.00	< 5.00	49.06	ug/l	98	70-130
ISOPROPYL BENZENE	50.00	< 5.00	56.00	ug/l	112	74-114
METHYL ACETATE	50.00	< 10.00	53.07	ug/l	106	68-122
METHYL-TERT-BUTYL ETHER	50.00	< 5.00	52.59	ug/l	105	74-119

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64259  
MS/MSD : MS13012902-02:64259  
MSD13012902-02:64259

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

Parameter	Spike Added	Sample Conc	MS Conc	Units	MS %REC	Limits %RRC
METHYLCYCLOHEXANE	50.00	< 5.00	56.10	ug/l	112	61-126
METHYLENE CHLORIDE	50.00	< 5.00	52.99	ug/l	106	71-115
STYRENE	50.00	< 5.00	49.70	ug/l	99	75-116
TETRACHLOROETHENE	50.00	< 5.00	50.33	ug/l	101	69-121
TOLUENE	50.00	< 5.00	49.59	ug/l	99	74-115
TRANS-1,2-DICHLOROETHENE	50.00	< 5.00	48.31	ug/l	97	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	< 5.00	48.21	ug/l	96	73-112
TRICHLOROETHENE	50.00	< 5.00	48.69	ug/l	97	74-120
TRICHLOROFUOROMETHANE	50.00	< 5.00	56.49	ug/l	113	70-134
VINYL ACETATE	50.00	< 10.00	52.70	ug/l	105	59-146
VINYL CHLORIDE	50.00	< 10.00	48.28	ug/l	97	63-124
XYLENE (TOTAL)	150.0	< 5.00	159.5	ug/l	106	73-116

Parameter	Spike Added	MSD Conc	Units	MSD %RRC	%RPD	Limits %RRC
1,1,1-TRICHLOROETHANE	50.00	51.41	ug/l	103	0	16 75-121
1,1,2,2-TETRACHLOROETHANE	50.00	49.27	ug/l	99	1	18 78-114
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	60.56	ug/l	121	1	18 64-130
1,1,2-TRICHLOROETHANE	50.00	48.50	ug/l	97	3	14 78-113
1,1-DICHLOROETHANE	50.00	51.02	ug/l	102	1	15 76-116
1,1-DICHLOROETHENE	50.00	51.97	ug/l	104	0	16 71-127
1,2,3-TRICHLOROBENZENE	50.00	48.57	ug/l	97	1	20 75-112
1,2,4-TRICHLOROBENZENE	50.00	48.87	ug/l	98	2	18 76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	49.74	ug/l	99	2	20 73-124
1,2-DIBROMOETHANE	50.00	49.06	ug/l	98	1	16 79-114
1,2-DICHLOROBENZENE	50.00	53.79	ug/l	108	0	15 76-109
1,2-DICHLOROETHANE	50.00	51.64	ug/l	103	1	16 74-122
1,2-DICHLOROPROPANE	50.00	49.28	ug/l	99	2	15 79-113
1,3-DICHLOROBENZENE	50.00	55.29	ug/l	111	2	17 69-118
1,4-DICHLOROBENZENE	50.00	47.44	ug/l	95	0	16 74-108
2-BUTANONE	50.00	48.45	ug/l	97	4	20 68-134
2-HEXANONE	50.00	50.38	ug/l	101	4	20 70-133
4-METHYL-2-PENTANONE	50.00	49.41	ug/l	99	3	19 69-135
ACETONE	50.00	52.90	ug/l	106	4	23 64-149
BENZENE	50.00	49.10	ug/l	98	1	15 77-114
BROMODICHLOROMETHANE	50.00	50.16	ug/l	100	1	16 76-123
BROMOFORM	50.00	50.62	ug/l	101	1	17 74-124
BROMOMETHANE	50.00	50.51	ug/l	101	2	22 64-121

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Matrix Spikes and Duplicates

WorkGroup: WG64259  
MS/MSD : MS13012902-02:64259  
MSD13012902-02:64259

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

Parameter	Spike Added	MSD Conc	Units	MSD		Limits	
				%REC	%RPD	%RPD	%REC
CARBON DISULFIDE	50.00	46.69	ug/l	93	1	21	59-124
CARBON TETRACHLORIDE	50.00	53.35	ug/l	107	1	18	72-126
CHLOROBENZENE	50.00	54.27	ug/l	109	1	15	74-113
CHLOROETHANE	50.00	53.71	ug/l	107	1	17	71-121
CHLOROFORM	50.00	57.19	ug/l	101	0	14	76-119
CHLOROMETHANE	50.00	51.87	ug/l	104	2	18	59-123
CIS-1,2-DICHLOROETHENE	50.00	50.01	ug/l	100	0	15	74-118
CIS-1,3-DICHLOROPROPENE	50.00	53.31	ug/l	107	0	16	83-125
CYCLOHEXANE	50.00	56.44	ug/l	113	1	17	59-126
DIBROMOCHLOROMETHANE	50.00	50.39	ug/l	101	0	16	77-121
DICHLORODIFLUOROMETHANE	50.00	54.08	ug/l	108	0	20	53-141
ETHYLBENZENE	50.00	48.97	ug/l	98	0	20	70-130
ISOPROPYL BENZENE	50.00	56.05	ug/l	112	0	17	74-114
METHYL ACETATE	50.00	51.01	ug/l	102	4	19	68-122
METHYL-TERT-BUTYL ETHER	50.00	52.62	ug/l	105	0	16	74-119
METHYLCYCLOHEXANE	50.00	55.66	ug/l	111	1	16	61-126
METHYLENE CHLORIDE	50.00	52.87	ug/l	106	0	17	71-115
STYRENE	50.00	49.44	ug/l	99	1	17	75-116
TETRACHLOROETHENE	50.00	50.00	ug/l	100	1	16	69-121
TOLUENE	50.00	48.75	ug/l	98	2	15	74-115
TRANS-1,2-DICHLOROETHENE	50.00	48.78	ug/l	98	1	16	74-119
TRANS-1,3-DICHLOROPROPENE	50.00	48.12	ug/l	96	0	16	73-112
TRICHLOROETHENE	50.00	48.87	ug/l	98	0	15	74-120
TRICHLOROFLUOROMETHANE	50.00	56.68	ug/l	113	0	18	70-134
VINYL ACETATE	50.00	50.85	ug/l	102	4	19	59-146
VINYL CHLORIDE	50.00	47.84	ug/l	96	1	16	63-124
XYLENE (TOTAL)	150.0	159.2	ug/l	106	0	17	73-116

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

SC Certification Number: 24110001

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

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64259  
LCS : LCS64259:1

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	51.60	ug/l	103	76-120
1,1,2,2-TETRACHLOROETHANE	50.00	50.16	ug/l	100	78-116
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	50.00	59.09	ug/l	118	65-125
1,1,2-TRICHLOROETHANE	50.00	48.98	ug/l	98	78-117
1,1-DICHLOROETHANE	50.00	51.41	ug/l	103	75-117
1,1-DICHLOROETHENE	50.00	51.54	ug/l	103	72-125
1,2,3-TRICHLOROBENZENE	50.00	49.07	ug/l	98	75-113
1,2,4-TRICHLOROBENZENE	50.00	48.65	ug/l	97	76-114
1,2-DIBROMO-3-CHLOROPROPANE	50.00	51.23	ug/l	102	77-122
1,2-DIBROMOETHANE	50.00	49.81	ug/l	100	80-116
1,2-DICHLOROBENZENE	50.00	54.71	ug/l	109	76-110
1,2-DICHLOROETHANE	50.00	51.09	ug/l	102	75-121
1,2-DICHLOROPROPANE	50.00	49.52	ug/l	99	79-115
1,3-DICHLOROBENZENE	50.00	54.78	ug/l	110	74-113
1,4-DICHLOROBENZENE	50.00	48.06	ug/l	96	74-109
2-BUTANONE	50.00	50.71	ug/l	101	72-129
2-HEXANONE	50.00	51.76	ug/l	104	73-132
4-METHYL-2-PENTANONE	50.00	51.41	ug/l	103	75-131
ACETONE	50.00	53.47	ug/l	107	70-138
BENZENE	50.00	49.63	ug/l	99	77-116
BROMODICHLOROMETHANE	50.00	49.69	ug/l	99	79-120
BROMOFORM	50.00	51.20	ug/l	102	79-121
BROMOMETHANE	50.00	52.25	ug/l	105	67-122
CARBON DISULFIDE	50.00	48.06	ug/l	96	59-125
CARBON TETRACHLORIDE	50.00	52.79	ug/l	106	74-124
CHLOROBENZENE	50.00	54.30	ug/l	109	75-113
CHLOROETHANE	50.00	53.06	ug/l	106	73-120
CHLOROFORM	50.00	50.43	ug/l	101	75-121
CHLOROMETHANE	50.00	52.95	ug/l	106	60-122
CIS-1,2-DICHLOROETHENE	50.00	50.50	ug/l	101	74-119
CIS-1,3-DICHLOROPROPENE	50.00	53.90	ug/l	108	83-126
CYCLOHEXANE	50.00	55.15	ug/l	110	60-123
DIBROMOCHLOROMETHANE	50.00	50.58	ug/l	101	779-121
DICHLORODIFLUOROMETHANE	50.00	52.70	ug/l	105	55-139
ETHYLBENZENE	50.00	49.09	ug/l	98	70-130
ISOPROPYL BENZENE	50.00	55.97	ug/l	112	74-113
METHYL ACETATE	50.00	53.08	ug/l	106	67-123
METHYL-TERT-BUTYL ETHER	50.00	53.10	ug/l	106	75-120

SC Certification Number: 24110001

Client : AECOM  
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Contact : BRYON DAHLGREN

Project Number: 61576.08  
Report Date : February 14, 2013  
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### QC Batch Report - Laboratory Control Standards and Duplicates

WorkGroup: WG64259  
LCS : LCS64259:1

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

Parameter	Spike Added	LCS Conc	Units	LCS %RRC	Limits %RRC
METHYLCYCLOHEXANE	50.00	54.89	ug/l	110	62-123
METHYLENE CHLORIDE	50.00	50.57	ug/l	101	70-120
STYRENE	50.00	49.90	ug/l	100	78-113
TETRACHLOROETHENE	50.00	49.90	ug/l	100	70-120
TOLUENE	50.00	48.89	ug/l	98	75-116
TRANS-1,2-DICHLOROETHENE	50.00	48.63	ug/l	97	73-121
TRANS-1,3-DICHLOROPROPENE	50.00	48.26	ug/l	97	73-114
TRICHLOROETHENE	50.00	49.16	ug/l	98	75-119
TRICHLOROFLUOROMETHANE	50.00	56.51	ug/l	113	71-128
VINYL ACETATE	50.00	56.36	ug/l	113	65-142
VINYL CHLORIDE	50.00	48.52	ug/l	97	64-122
XYLENE (TOTAL)	150.0	159.7	ug/l	106	73-116

### Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>RDL</b>	Report Detection Limit	<b>MDL</b>	Method Detection Limit
<b>PQL</b>	Practical Quantitation Limit	<b>DL</b>	Detection Limit
<b>LOQ</b>	Limit of Quantitation	<b>LOD</b>	Limit of Detection
<b>SQL</b>	Sample Quantitation Limit	<b>TIC</b>	Tentatively Identified Compound
<b>C</b>	Degrees Centigrade	<b>F</b>	Degrees Fahrenheit
<b>umhos/cm</b>	micromhos/cm	<b>meq</b>	milliequivalents
<b>su</b>	Standard Units		

**mg/l, mg/kg** Units of concentration in milligrams per liter for liquids and milligrams per kilogram for solids. Also referred to as Parts Per Million or "ppm".

**ug/l, ug/kg** Units of concentration in micrograms per liter for liquids and micrograms per kilograms for solids. Also referred to as Parts Per Billion or "ppb".

**<** Less Than

**>** Greater Than

Solid samples (i.e. soil, sludge, and solid waste) are reported on an as received basis unless otherwise noted.

#### **Data Qualifiers:**

- B** Analyte also detected in the method blank.
- C** Amendable Cyanide is a negative value due to an unknown interference.
- F** Surrogate Standard Recovery exceeds the laboratory established acceptance limits.
- J** The reported result is an estimated value (eg matrix interference observed or concentration outside the quantitation range).
- N** Non-target analyte. The analyte is TIC (using mass spectrometry).
- P** Concentration difference between primary and confirmation columns >40%.
- Q** One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV)
- U** Final concentration is below the detection limit.
- \*** Defined in report comments.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or biological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of the material involved, the test results will be meaningless. If you have any questions regarding the proper techniques of collecting samples, please contact us. However, we cannot be held responsible for sample integrity unless sampling has been performed by a member of our staff.

**REPRESENTATION AND LIMITATION OF LIABILITY** – The accuracy of all analytical results for samples begins as it is received by the laboratory. Integrity of the sample begins at the time it is placed in the possession of authorized Davis & Floyd, Inc. Laboratories personnel. All other warranties, expressed or implied, are disclaimed. Liability is limited to the cost of the analysis.



Client: **C.N.A. Holdings** Project / Site Location: **061576.07** Lab Certification ID: **SC - 24119, NC - 23, NELAP - 587633, NY - 11998, TN - 2923, VA - 934**  
**Auriga Polymers - Spartanburg, SC** Report To: **Bryon Dahlgren** 816 E. Dust Avenue, Greenwood, SC 29649 (864) 229-4413 Fax: (864) 229-7119  
 Email: [Laboratory@davisfloyd.com](mailto:Laboratory@davisfloyd.com) Internal: [www.davisfloyd.com](http://www.davisfloyd.com)

Collected By: **Mark Hartford** Copy To: **Bryon Dahlgren** Reporting Requirements: [ ] Standard [ ] Data Package (Specify Level: 1 2 3 4) PO / Quote Number: **0**  
 Turnaround Requirements: [ ] Standard [ ] Rush (Specify: \_\_\_\_\_) Required Parameters: Containers and Preservatives (P?) Special Instructions: **SC**

**NOTICE:**



Sample Description	Date Initiated	Sample Collection		Composite Type		Number of Containers	PARAMETERS		CONTAINERS		Comments	Fraction
		Date	Time	Grab	Matrix Type		A	B	3x40 G TFE	3x40 G TFE		
MM-200		12-21-13	908	X	5	4	VOC's					01
RM-110		12-21-13	1200	X	5	6	1,4-Dioxane	52M				02
RM-111		12-21-13	1415	X	5	6						03
ENTER NUMBER OF SAMPLE CONTAINERS												

Relinquished By: *[Signature]* Date: **12-28-13** Time: **1615** Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received By: *[Signature]* Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \_\_\_\_\_  
 Sample Chamber Temp. at Harvest: \_\_\_\_\_ Circle: C or F  
 Flow Measurement (Note 1) Beginning: \_\_\_\_\_ Ending: \_\_\_\_\_ Start Date: \_\_\_\_\_ Multiplier: \_\_\_\_\_  
 Received in Laboratory By: **Tsa S. McCall** Date: **12-29-13** Time: **0940**  
 Shipped Via: **UPS FEDEX CLIENT COURIER** Tracking Number: \_\_\_\_\_  
 Receipt Information: Cooler ID (if available): \_\_\_\_\_ On Ice: **Yes** / No Temp(C): **4**  
 Immediate Delivery: **Yes** / No 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-NA2S2O3  
 (Note 1) For Discharge Measurements  
 Davis & Floyd, Inc. FL02\_03 (04/10)

