

US EPA ARCHIVE DOCUMENT



Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

February 7, 2012

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2011 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

If you have any questions or comments regarding this report, please contact me at
(314) 674-3312 or gmrina@solutia.com

Sincerely,

A handwritten signature in blue ink, appearing to read "Gerald M. Rinaldi", is written over a light blue horizontal line.

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

**Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL**

USEPA

Stephanie Linebaugh
USEPA Region 5 - SR6J, 77 West Jackson Boulevard, Chicago, IL 60604

Booz Allen Hamilton

Dan Briller
Booz Allen Hamilton, 8283 Greensboro Drive, McLean, VA 22102

Solutia

Brett Shank 500 Monsanto Avenue, Sauget, IL 62206-1198

**4TH QUARTER 2011
DATA REPORT**

**ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING**

**SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS**

Prepared for
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

January 2012



URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562682.00004

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1.0 INTRODUCTION

Solutia Inc. (Solutia) is conducting groundwater monitoring activities as outlined in the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia, 2008). The Illinois Route 3 Drum Site (Site) is an area associated with the Solutia W.G. Krummrich (WGK) Facility located in Sauget, Illinois that is subject to a RCRA Administrative Order on Consent (AOC) entered into by the U.S. EPA and Solutia on May 3, 2000. This report presents the results of the sampling event completed in 4th Quarter 2011 (4Q11). The Site is located in the area identified as "Lot F" in **Figure 1**.

During the 4Q11 sampling event, groundwater samples were collected from two Shallow Hydrogeologic Unit (SHU) monitoring wells, designated GM-31A and GM-58A (**Figure 2**), located hydraulically downgradient of the Site. Samples from each well were analyzed for select semivolatile organic compounds (SVOCs) using EPA Method 8270C. In addition, samples were collected from both wells for evaluation of monitored natural attenuation (MNA). The types of natural attenuation processes active at the site will be determined by measurements of the following key geochemical parameters: alkalinity, carbon dioxide, chloride, dissolved oxygen (DO), ferrous iron, total and dissolved iron, total and dissolved manganese, methane, nitrate, sulfate, total and dissolved organic carbon, and oxidation-reduction potential (ORP).

2.0 FIELD PROCEDURES

URS Corporation (URS) personnel collected groundwater level measurements on November 10, 2011 and conducted the 4Q11 Illinois Route 3 Drum Site groundwater sampling on November 22, 2011¹. Groundwater samples were collected from two monitoring wells during the 4Q11 sampling event. This section summarizes the field investigative procedures.

Groundwater Level Measurements - An oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL). Depth-to-groundwater measurements for the 4Q11 sampling event are presented in **Table 1**. NAPL was not detected in either of the monitoring wells.

Groundwater Sampling - Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate no greater than 500 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

¹ The November 10th gauging was part of a comprehensive event which included monitoring wells associated with other WGK programs. Groundwater levels in the subject wells were gauged again on November 22nd prior to sampling.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed. Bottles were filled in the following order:

- Gas Sensitive Parameters (e.g., carbon dioxide, methane)
- Semivolatile Organic Compounds (SVOCs)
- General Chemistry (i.e., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, and total and dissolved organic carbon)
- Field Parameters (i.e., dissolved oxygen, ferrous iron, and oxidation reduction potential).

Samples for analysis of ferrous iron, dissolved iron, dissolved organic carbon, and dissolved manganese were filtered in the field using in-line 0.2 micron disposable filters.

Quality Assurance/Quality Control (QA/QC) samples consisting of analytical duplicates (AD) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. One duplicate and one MS/MSD sample were collected.

Each sample was labeled immediately following collection. The groundwater sample identification system included the following nomenclature: "GM-31A-1111" which denotes Groundwater Monitoring well number 31A sampled in November 2011. QA/QC samples are identified by the suffix AD or MS/MSD. A notation of "F" in the sample nomenclature indicates a sample that was filtered in the field with a 0.2 micron filter.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4°C. Field personnel recorded the project identification and number, sample

description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of overnight delivery service. Field sampling data sheets are included in **Appendix A**. COC forms are included in **Appendix B**.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica Savannah for the 40 CFR 264 Appendix IX SVOCs, MNA parameters, per the Route 3 Drum Site Operation and Maintenance Plan, using the following methodologies:

- SVOCs, via USEPA SW-846 Method 8270C - The constituents of concern (COCs) identified by the USEPA are biphenyl, 2,4-dichlorophenol, dinitrochlorobenzene, nitrobenzene, 2-nitrobiphenyl, 3-nitrobiphenyl, 4-nitrobiphenyl, 2-nitrochlorobenzene, 3-nitrochlorobenzene, 4-nitrochlorobenzene, pentachlorophenol, and 2,4,6-trichlorophenol.
- MNA parameters consisting of alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), total and dissolved organic carbon (415.1), nitrate (353.2), sulfate (375.4), and dissolved gases (RSK 175).

Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness as described in the Revised Illinois Route 3 Drum Site Operations and Maintenance Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory report. The Quality Assurance report is included as **Appendix C**. The laboratory report along with data review and validation report are included in **Appendix D**.

A total of five groundwater samples (two investigative groundwater samples, one field duplicate pair, and one MS/MSD pair) were collected. Samples were analyzed by TestAmerica for SVOCs and MNA parameters by USEPA SW-846 Methods. The results for the various analyses were submitted as sample delivery group (SDG) KOM014 containing results for GM-31A and GM-58A.

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review (USEPA 2010) and the Revised Illinois Route 3 Drum Site

Operation and Maintenance Plan (Solutia 2008). Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for this SDG to meet the project objectives. Completeness, which is defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect (**J/UJ**) data, was 100 percent.

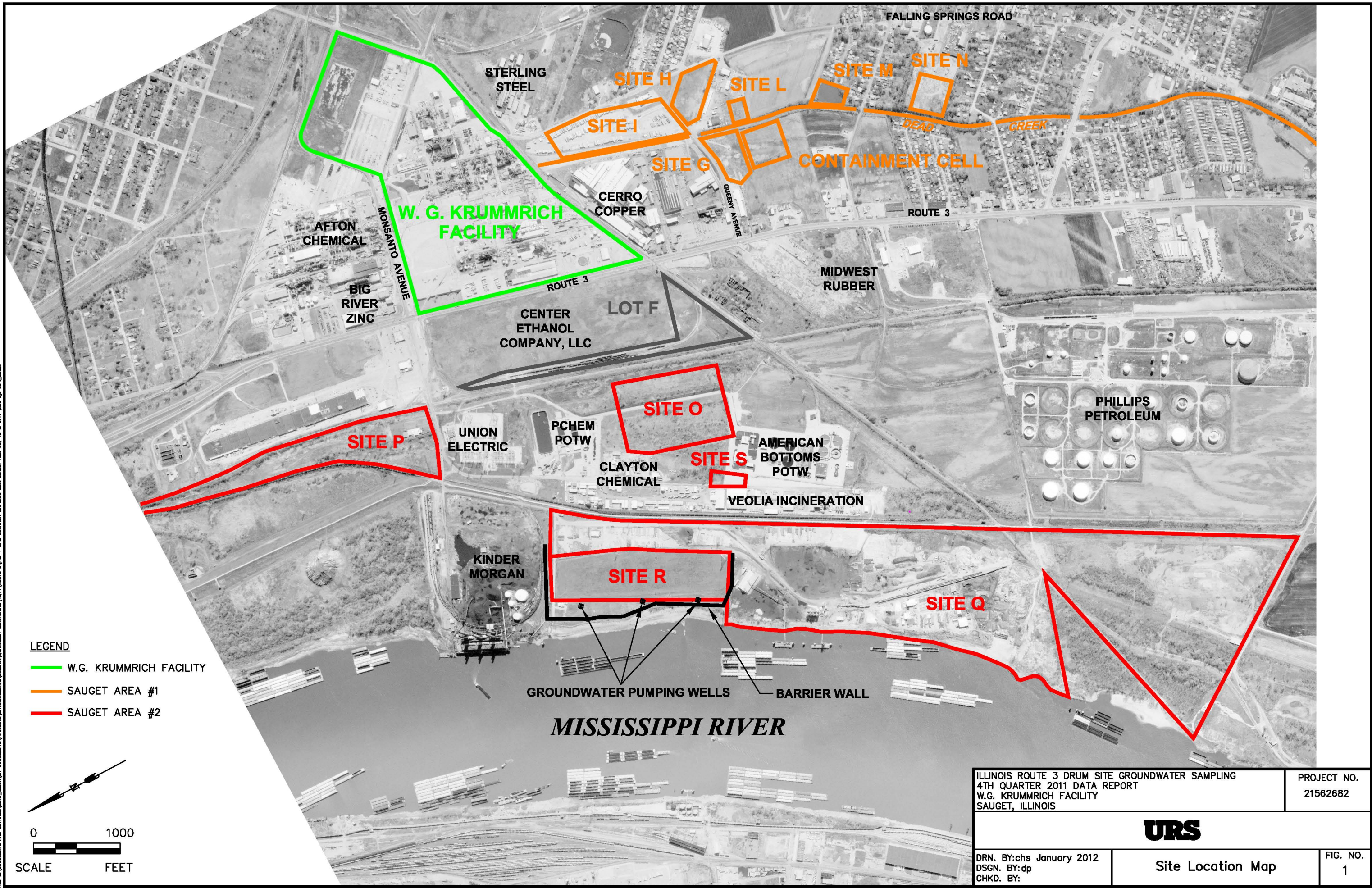
5.0 OBSERVATIONS

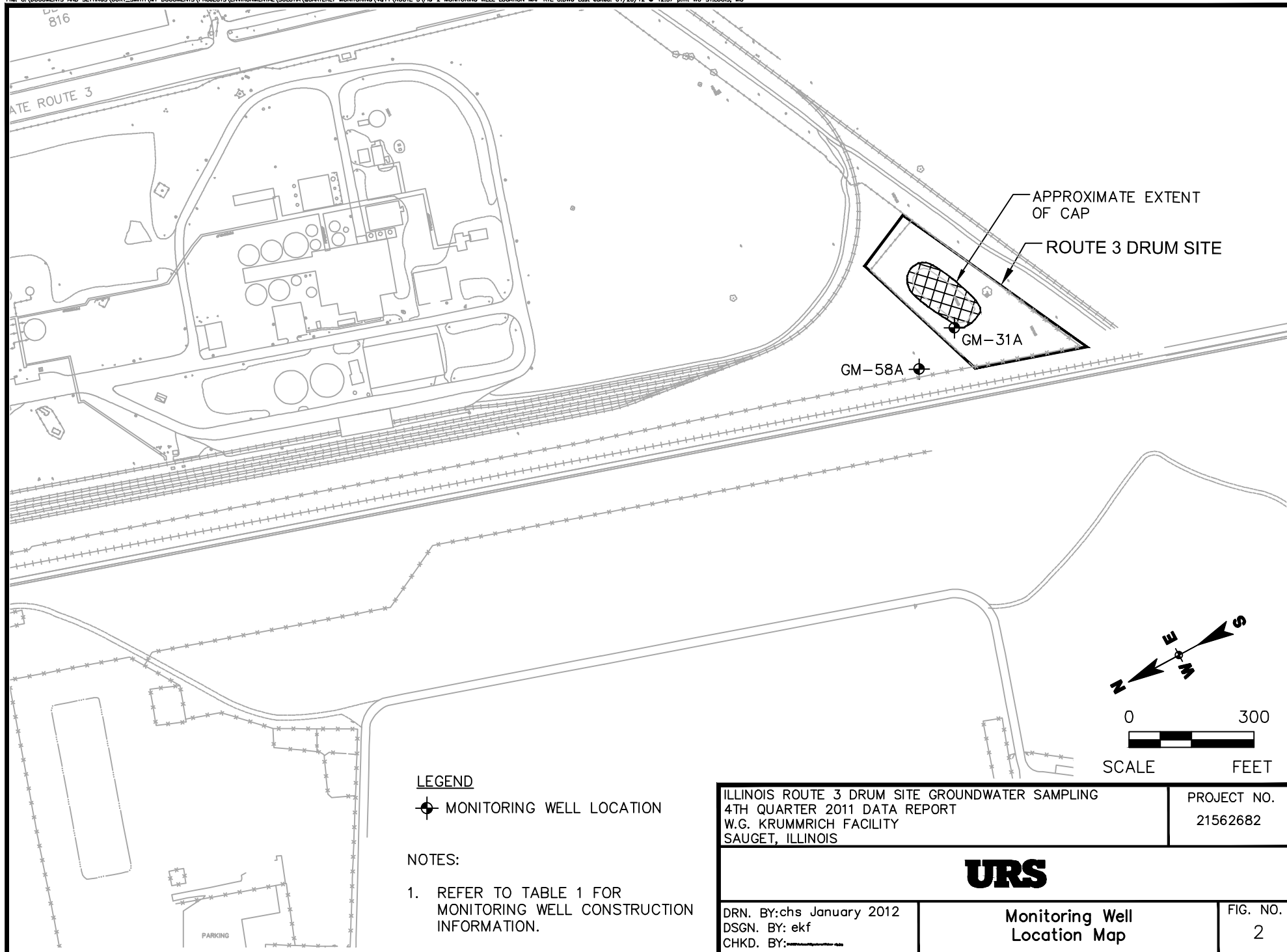
The 4Q11 sampling event was the fourteenth groundwater sampling event conducted in accordance with the Revised Illinois Route 3 Drum Site Operations and Maintenance Plan. SVOCs were detected in groundwater samples collected from monitoring wells GM-31A and GM-58A during the 4Q11 sampling event. Laboratory analytical data for groundwater sample GM-31A-1111 and duplicate indicate detections of 1-Chloro-2,4-Dinitrobenzene, 2,4,6-Trichlorophenol, 2-Chloronitrobenzene/4-Chloronitrobenzene and 2-Nitrobiphenyl, at concentrations of 19 and 26 µg/L, 82 and 96 µg/L, 51 and 61 µg/L, and 41 and 48 µg/L, respectively. 1-Chloro-2,4-Dinitrobenzene, 2,4,6-Trichlorophenol and 2-Chloronitrobenzene/4-Chloronitrobenzene were detected in groundwater sample GM-58A-1111, at concentrations of 150 µg/L, 84 µg/L and 270 µg/L. A summary of SVOC detections is provided in **Table 2**, with MNA results provided in **Table 3**.

6.0 REFERENCES

- Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.
- U.S. Environmental Protection Agency (USEPA), 2010. Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review.
- U.S. Environmental Protection Agency (USEPA), 2008 National Functional Guidelines for Superfund Organic Methods Data Review.

Figures





Tables

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						November 10, 2011	
	Ground Elevation* (feet)	Top of Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)								
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	23.19	395.44
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	19.09	395.15

Notes:

* - Elevation based upon North American Vertical Datum (NAVD) 88 datum

bgs - below ground surface

btoc - below top of casing

Table 2
Groundwater Analytical Results

Sample ID	Sample Date	1,1-Biphenyl (ug/L)	1-Chloro-2,4-Dinitrobenzene (ug/L)	2,4,6-Trichlorophenol (ug/L)	2,4-Dichlorophenol (ug/L)	2-Chloronitrobenzene/ 4-Chloronitrobenzene (ug/L)	2-Nitrobiphenyl (ug/L)	3-Nitrobiphenyl (ug/L)	3,4-Dichloronitrobenzene (ug/L)	3-Nitrochlorobenzene (ug/L)	4-Nitrobiphenyl (ug/L)	Nitrobenzene (ug/L)	Pentachlorophenol (ug/L)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)													
GM-31A-1111	11/22/2011	<9.5	19	82 * J	<9.5	51	41	<9.5	<9.5	<9.5	<9.5	<9.5	<48
GM-31A-1111-AD	11/22/2011	<9.4	26	96 * J	<9.4	61	48	<9.4	<9.4	<9.4	<9.4	<9.4	<47
GM-58A-1111	11/22/2011	<9.8	150	84 * J	<9.8	270	<9.8	<9.8	<9.8	<9.8	<9.8	<9.8	<49

Notes:

µg/L = micrograms per liter

< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data

* = LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits

J = Estimated data

BOLD indicates concentration greater than the reporting limit

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethylene (ug/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (µg/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)																		
GM-31A-1111	11/22/2011	530	50 B	19	-0.04	<1.1	<1		0.46		1.8		8.6	4.8	60		4.2	164.54
GM-31A-F(0.2)-1111	11/22/2011							0.00		<0.05		1.8				4.3		
GM-58A-1111	11/22/2011	490	34 B	25	-0.06	<1.1	<1		0.19		1.2		11	0.99	73		4.0	154.89
GM-58A-F(0.2)-1111	11/22/2011							0.00		<0.05		1.1				3.9		

Notes:

DO and ORP were measured in the field using an In-Situ Inc. TROLL 9500 equipped with a flow-through cell. Values presented represent final measurements before sampling

Ferrous Iron readings were measured in the field using a colorimeter after the groundwater passed through a 0.2 µm filter.

mg/L = milligrams per liter

µg/L = micrograms per liter

< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data

A blank space indicates sample not analyzed for select analyte.

F(0.2) = Sample was filtered utilizing a 0.2 µm filter in the field.

mV = millivolts

Appendix A

Groundwater Purging and Sampling Forms

**Troll 9000**

11/22/11

Low-Flow System**ISI Low-Flow Log****Project Information:**

Operator Name Mike Corbett
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - RTE 3

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 44.32 [ft]
Pump placement from TOC 0 [ft]

Well Information:

Well Id GM-31A
Well diameter 2 [in]
Well total depth 41 [ft]
Depth to top of screen 21 [ft]
Screen length 240 [in]
Depth to Water 23.65 [ft]

Pumping information:

Final pumping rate 400 [mL/min]
Flowcell volume 847.1 [mL]
Calculated Sample Rate 128 [sec]
Sample rate 128 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	11:19:33	60.63	6.65	1151.58	31.28	-0.02	168.39
	11:21:46	60.67	6.64	1152.31	24.33	-0.03	167.45
	11:23:59	60.68	6.63	1152.51	21.17	-0.03	166.51
	11:26:12	60.70	6.63	1150.81	19.10	-0.03	165.56
	11:28:23	60.76	6.63	1150.66	16.87	-0.04	164.54
Variance in last 3 readings	11:23:59	0.01	-0.01	0.20	-3.15	0.00	-0.94
	11:26:12	0.02	-0.01	-1.69	-2.07	0.00	-0.94
	11:28:23	0.06	0.00	-0.15	-2.23	0.00	-1.03

Notes:

**Troll 9000**

11/22/11

Low-Flow System**ISI Low-Flow Log****Project Information:**

Operator Name Mike Corbett
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - RTE 3

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 50.58 [ft]
Pump placement from TOC 0 [ft]

Well Information:

Well Id GM-58A
Well diameter 2 [in]
Well total depth 41.4 [ft]
Depth to top of screen 21.4 [ft]
Screen length 240 [in]
Depth to Water 19.5 [ft]

Pumping information:

Final pumping rate 350 [mL/min]
Flowcell volume 882.01 [mL]
Calculated Sample Rate 152 [sec]
Sample rate 152 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

		Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings				+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
				+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings		9:42:44	57.39	7.23	1227.17	16.60	-0.01	153.18
		9:43:35	57.44	7.07	1218.11	15.73	-0.03	153.31
		9:46:13	57.53	6.84	1128.09	20.89	-0.05	153.95
		9:48:50	57.90	6.75	1116.23	14.78	-0.06	154.67
		9:51:27	58.04	6.72	1112.25	14.84	-0.06	154.89
Variance in last 3 readings		9:46:13	0.09	-0.24	-90.03	5.16	-0.02	0.64
		9:48:50	0.36	-0.09	-11.86	-6.10	-0.01	0.72
		9:51:27	0.14	-0.02	-3.98	0.06	0.00	0.21

Notes:

Appendix B

Chain-of-Custody

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Dave Palmer		Site Contact: Nathan McNurien		Date: 11/22/11		COC No:								
URS Corporation		Tel/Fax: (314) 743-4154		Lab Contact: Lidya Gulizia		Carrier: FedEx		1 of 1 COCs								
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time						Job No.								
St. Louis, MO 63110		Calendar (C) or Work Days (W) C						21562682.00004								
(314) 429-0100 Phone		TAT if different from Below						21562703.00003								
(314) 429-0462 FAX		<input checked="" type="checkbox"/> 2 weeks						SDG No.								
Project Name: 4Q11 Route 3 GW Sampling		<input type="checkbox"/> 1 week														
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days														
P O #		<input type="checkbox"/> 1 day														
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
GM-58A -1111	11/22/11	1000	G	Water	11		2	1	1	1	3	2	1			
GM-58A -F(0.2)-1111		1000	G	Water	2	X								1	1	
GM-58A-1111-MS		1000	G	Water	2		2									
GM-58A-1111-MSD		1000	G	Water	2		2									
4Q11 Route 3 Trip Blank #				Water	2		2									
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other						1	4	1	1	1	3	1	2	4	2	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months										
Special Instructions/QC Requirements & Comments: Level 4 Data Package																
Relinquished by:		Company: URS		Date/Time: 11/22/11 1400		Received by: [Signature]		Company: TA		Date/Time: 11/22/11 1400						
Relinquished by: [Signature]		Company: TA		Date/Time: 11/22/11 1630		Received by: [Signature]		Company: TA		Date/Time: 11/23/11 0952						
Relinquished by: [Signature]		Company: TA		Date/Time: 11/23/11 0952		Received by: [Signature]		Company: TA		Date/Time: 11/23/11 0952						

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15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Dave Palmer		Site Contact: Nathan McNurlen		Date: 11/22/11		COC No:									
URS Corporation		Tel/Fax: (314) 743-4154		Lab Contact: Lidya Gulizia		Carrier: FedEx		Job No. 21562682.00004									
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time						21502703.00003									
St. Louis, MO 63110		Calendar (C) or Work Days (W) C						SDG No.									
(314) 429-0100 Phone		TAT if different from Below															
(314) 429-0462 FAX		<input checked="" type="checkbox"/> 2 weeks															
Project Name: 4Q11 Route 3 GW Sampling		<input type="checkbox"/> 1 week															
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days															
P O #		<input type="checkbox"/> 1 day															
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	SVOCs by 8270C*	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:	
GM-31A -1111	11/22/11	1135	G	Water	11		2	1	1	1	3	2	1				
GM-31A -R(0.2)-1111	↓	1135	G	Water	2	X							1	1			
GM-31A-1111-AD	✓	1135	G	Water	2		2										
4Q11 Route 3 Trip Blank #				Water	2		2										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other						1	4	1	1	1	3,1	2	4	2			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/>						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/QC Requirements & Comments: Level 4 Data Package																	
Relinquished by: [Signature]		Company: URS		Date/Time: 11/22/11 1400		Received by: [Signature]		Company: TA		Date/Time: 11/22/11 1400		Received by: [Signature]		Company: TA		Date/Time: 11/23/11 0952	
Relinquished by: [Signature]		Company: TA		Date/Time: 11/22/11 1630		Received by: [Signature]		Company: TA		Date/Time: 11/22/11 1630		Received by: [Signature]		Company: TA		Date/Time: 11/23/11 0952	
Relinquished by: [Signature]		Company: TA		Date/Time: 11/22/11 1630		Received by: [Signature]		Company: TA		Date/Time: 11/22/11 1630		Received by: [Signature]		Company: TA		Date/Time: 11/23/11 0952	

US EPA ARCHIVE DOCUMENT

Appendix C
Quality Assurance Report

Q U A L I T Y A S S U R A N C E R E P O R T

Solutia Inc.
W.G. Krummrich Facility
Sauget, Illinois

Illinois Route 3 Drum Site
4th Quarter 2011 Data Report

Prepared for

Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

January 2012



URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562682.00004

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1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in November 2011 at the Illinois Route 3 Drum Site on the Solutia W.G. Krummrich Facility as part of the 4th Quarter 2011 sampling event. The samples were collected by URS Corporation personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methodologies. Samples were analyzed for certain semivolatile organic compounds (SVOCs), monitored natural attenuation (MNA) parameters, and metals.

One hundred percent of the data were subjected to a data quality review (Level III validation). The Level III review was performed in order to confirm that the analytical data provided by TestAmerica were acceptable in quality for their intended use. A total of five samples (two investigative groundwater samples, one field duplicate, and one matrix spike and matrix spike duplicate (MS/MSD) pair) were collected. Samples were analyzed by TestAmerica for SVOCs and MNAs by the following USEPA SW-846 Methods:

USEPA SW-846 Method 8270C for SVOCs

Samples were also analyzed for MNA parameters by the following methods:

- Method RSK-175 for Dissolved Gases (Ethane, Ethylene, and Methane)
- USEPA Method 310.1 for Alkalinity and Carbon Dioxide
- USEPA Method 325.2 for Chloride
- USEPA Method 6010B for Total and Dissolved Iron and Manganese
- USEPA Method 415.1 for Total and Dissolved Organic Carbon
- USEPA Method 353.2 for Nitrogen, Nitrate
- USEPA Method 375.4 for Sulfate

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review (USEPA 2010).

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Qualifiers assigned by the data reviewer have been applied to the laboratory report. The qualifiers indicate data that did not meet acceptance criteria and corrective actions were not successful or not performed.

The various qualifiers are explained in **Tables 1** and **2** below:

TABLE 1 Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Indicates the analyte was analyzed for but not detected.
*	LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits.
E	Result exceeded the calibration range, secondary dilution required.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
H	Sample was prepped or analyzed beyond the specified holding time.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

TABLE 2 URS Data Qualifiers

URS Qualifier	Definition
U	The analyte was analyzed for but was not detected.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report. In addition, analytical completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect (J/UJ) values was 100 percent, which meets the completeness goal of 95 percent.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times

- Laboratory method blanks
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample recoveries and Relative Percent Difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard responses

Inorganics/General chemistry

- Receipt condition and sample holding times
- Laboratory method blank
- LCS recoveries
- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results reported from dilutions

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

Extractions and/or analyses were completed within the recommended holding time requirements.

Although not requiring qualification, manual integration was performed on SVOC investigative samples GM-58A-1111, GM-31A-1111 and GM-31A-1111-AD, one methane method blank, and several SVOC QC samples. The percent relative standard deviation (%RSD) for surrogate 2-fluorophenol was greater than 15% in the initial calibration. The grand mean exception was applied as specified in EPA Method 8000B; no qualification of data was required.

The cooler receipt form indicated that ten containers were received for samples GM-58A-1111 and GM-31A-1111, although the COC lists eleven containers. The containers contained sufficient sample volume to complete the requested analyses; therefore, no qualification of data was required.

3.0 LABORATORY METHOD BLANK

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. Laboratory method blank samples were analyzed at the method prescribed frequencies. The method blank sample was non-detect for all target analytes with the exception summarized in the table below.

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 680-221898/5	Alkalinity	Carbon dioxide, free	6.80 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for SVOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet evaluation criteria.

Surrogate recoveries were within evaluation criteria. No qualifications of data were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. All spiked LCS recoveries were within evaluation criteria with the exception summarized in the table below.

LCS ID	Parameter	Analyte	LCS Recovery	LCS Criteria
680-222028/5-A	SVOCs	2,4,6-Trichlorophenol	55	57-130

Analytical data that required qualification based on LCS data are included in the following table.

Sample ID	Parameter	Analyte	Qualification
GM-58A-1111	SVOCs	2,4,6-Trichlorophenol	J
GM-31A-1111	SVOCs	2,4,6-Trichlorophenol	J
GM-31A-1111-AD	SVOCs	2,4,6-Trichlorophenol	J

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were to be collected at a frequency of one per 20 investigative samples in accordance with the work plan. URS Corporation submitted one MS/MSD sample set for two investigative samples, meeting the work plan frequency requirement.

Sample GM-58A-1111 was spiked and analyzed for SVOCs. Although not requested for MS/MSD analysis, sample GM-31A-1111 was spiked and analyzed for nitrate and nitrate nitrite. Groundwater samples spiked and analyzed as MS/MSDs and their respective recoveries are discussed further in the data review in **Appendix D**. No qualification of data was required.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One field duplicate sample was collected for the two investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Field duplicate RPDs were within criteria. No qualification of the data was required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50 percent to +100 percent for SVOCs. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time.

The internal standards area responses for the SVOCs were verified for the data reviews. IS responses met the criteria. No qualification of the data was required.

9.0 RESULTS REPORTED FROM DILUTIONS

Samples were diluted for the analysis of sulfate and/or nitrate. The diluted sample results for sulfate and nitrate were reported at the lowest possible reporting limit.

Appendix D
Groundwater Analytical Results
(with Data Review Reports)

Solutia Krummrich Data Review WGK Route 3 Drum Site O&M 4Q11

Laboratory SDG: KOM014

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 1/4/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Applicable Work Plan: Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia 2008)

Sample Identification	
GM-58A-1111	GM-58A-F(0.2)-1111
GM-31A-1111	GM-31A-F(0.2)-1111
GM-31A-1111-AD	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that LCS recovery for 2,4,6-trichlorophenol was outside evaluation criteria. SVOC MS/MSD recoveries for 1-chloro-2,4-dinitrobenzene exceeded calibration range in sample GM-58A-1111. Nitrate and nitrate nitrite MS/MSD recoveries in sample GM-31A-1111 could not be evaluated because the sample concentrations were greater than four times (4X) the matrix spike concentrations. Samples were diluted due to high levels of nitrate and sulfate. Although not requiring qualification, manual integration was performed on SVOC investigative samples GM-58A-1111, GM-31A-1111 and GM-31A-1111-AD, one methane method blank, and several SVOC QC samples. The percent relative standard deviation (%RSD) for surrogate 2-fluorophenol was greater than 15% in the initial calibration. The grand mean exception was applied as specified in EPA Method 8000B; no qualification of data was required. Although not indicated in the laboratory case narrative, free carbon dioxide was detected in the method blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that ten containers were received for samples GM-58A-1111 and GM-31A-1111, however the COC lists eleven containers. The containers contained sufficient sample to complete the requested analyses; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 680-221898/5	Alkalinity	Carbon dioxide, free	6.80 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS Recovery	LCS Criteria
680-222028/5-A	SVOCs	2,4,6-Trichlorophenol	55	57-130

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect did not require qualification.

Sample ID	Parameter	Analyte	Qualification
GM-58A-1111	SVOCs	2,4,6-Trichlorophenol	J
GM-31A-1111	SVOCs	2,4,6-Trichlorophenol	J
GM-31A-1111-AD	SVOCs	2,4,6-Trichlorophenol	J

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, sample GM-58A-1111 was spiked and analyzed for SVOCs. Although not requested for MS/MSD analysis, sample GM-31A-1111 was spiked and analyzed for nitrate nitrite.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
GM-58A-1111	SVOCs	1-Chloro-2,4-dinitrobenzene	NA/NA	7	10-130/50
GM-31A-1111	General chemistry	Nitrate	NA/NA	0	90-110/10
GM-31A-1111	General chemistry	Nitrate nitrite	NA/NA	0	90-110/10

SVOC MS/MSD recoveries for 1-chloro-2,4-dinitrobenzene exceeded calibration range in sample GM-58A-1111. USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria for 1-chloro-2,4-dinitrobenzene; therefore, no qualification of data was required. Nitrate and nitrate nitrite MS/MSD recoveries in sample GM-31A-1111 could not be evaluated because the sample concentrations were greater than four times (4X) the matrix spike concentrations. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples performed as part of this SDG?

Yes, sample GM-31A-1111 was duplicated and analyzed for alkalinity and sample GM-58A-1111 was duplicated and analyzed for total organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GM-31A-1111	GM-31A-1111-AD

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

SDG KOM014

Results of Samples from Monitoring Wells:

GM-31A

GM-58A

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-74645-1
TestAmerica Sample Delivery Group: KOM014
Client Project/Site: WGK Route 3 Drum Site O&M 4Q11

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Lidya Gulizia

Authorized for release by:
12/29/2011 10:03:05 AM

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

cc: Bob Billman

LINKS

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Expert**

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www.testamericainc.com

*Reviewed on
1/4/2012*

The test results in this report meet all 2003 NELAP and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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JAN 04 2012

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Job ID: 680-74645-1



Laboratory: TestAmerica Savannah

Narrative

Job Narrative 680-74645-1

Receipt

All samples were received in good condition within temperature requirements.

GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) associated with batch 222028 was outside acceptance criteria marginally low for 2,4,6-trichlorophenol. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits; therefore, the data have been reported.

Method(s) 8270C: Manual integration was performed on the following sample(s): (LCS 680-222028/8-A), GM-31A-1111 (680-74645-3), GM-31A-1111-AD (680-74645-5), GM-58A-1111 (680-74645-1), GM-58A-1111 (680-74645-1 MS), GM-58A-1111 (680-74645-1 MSD).

Method(s) 8270C: The grand mean exception, as outlined in EPA Method 8000B, was applied to the initial calibration (ICAL) analyzed in batch 224424 and to the continuing calibration verification (CCV) standard associated with batch 224425. This rule states that when one or more compounds in the ICAL fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average % RSD (the grand mean) of all the compounds in the ICAL is less than or equal to 15% RSD. The following surrogate compound is affected: 2-Fluorophenol.

No other analytical or quality issues were noted.

GC VOA

Method(s) RSK-175: Manual integration was performed on the following sample(s): (MB 680-222741/4).

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

General Chemistry

Method(s) 325.2: The matrix spike duplicate (MSD) recoveries for batch 222364 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Comments

No additional comments.

JAN 04 2012

Sample Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-74645-1	GM-58A-1111 ✓	Water	11/22/11 10:00	11/23/11 09:52
680-74645-2	GM-58A-F(0.2)-1111 ✓	Water	11/22/11 10:00	11/23/11 09:52
680-74645-3	GM-31A-1111 ✓	Water	11/22/11 11:35	11/23/11 09:52
680-74645-4	GM-31A-F(0.2)-1111 ✓	Water	11/22/11 11:35	11/23/11 09:52
680-74645-5	GM-31A-1111-AD ✓	Water	11/22/11 11:35	11/23/11 09:52

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JAN 04 2012



TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method	Method Description	Protocol	Laboratory
6270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	OOC	MCAWW	TAL SAV

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Protocol References:

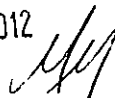
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1966 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

JAN 04 2012


Definitions/Glossary

Client: Solutia Inc.
Project/Site: W GK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD exceeds the control limits
E	Result exceeded calibration range.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals


Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

JAN 04 2012


Detection Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-58A-1111

Lab Sample ID: 680-74645-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	84	*	9.8		ug/L	1			8270C	Total/NA
2-chloronitrobenzene /	270		20		ug/L	1			8270C	Total/NA
4-chloronitrobenzene										
1-chloro-2,4-dinitrobenzene	150		9.8		ug/L	1			8270C	Total/NA
Methane	11		0.58		ug/L	1			RSK-175	Total/NA
Iron	0.19		0.050		mg/L	1			6010B	Total Recovera
Manganese	1.2		0.010		mg/L	1			6010B	Total Recovera
Chloride	25		1.0		mg/L	1			325.2	Total/NA
Nitrate as N	0.99		0.050		mg/L	1			353.2	Total/NA
Sulfate	73		25		mg/L	5			375.4	Total/NA
Total Organic Carbon	4.0		1.0		mg/L	1			415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Alkalinity	490		5.0		mg/L	1			310.1	Total/NA
Carbon Dioxide, Free	34	B	5.0		mg/L	1			310.1	Total/NA

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Client Sample ID: GM-58A-F(0.2)-1111

Lab Sample ID: 680-74645-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese, Dissolved	1.1		0.010		mg/L	1			6010B	Dissolved
Dissolved Organic Carbon	3.9		1.0		mg/L	1			415.1	Dissolved

Client Sample ID: GM-31A-1111

Lab Sample ID: 680-74645-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	82	*	9.5		ug/L	1			8270C	Total/NA
2-Nitrobiphenyl	41		9.5		ug/L	1			8270C	Total/NA
2-chloronitrobenzene /	51		19		ug/L	1			8270C	Total/NA
4-chloronitrobenzene										
1-chloro-2,4-dinitrobenzene	19		9.5		ug/L	1			8270C	Total/NA
Methane	8.6		0.58		ug/L	1			RSK-175	Total/NA
Iron	0.46		0.050		mg/L	1			6010B	Total Recovera
Manganese	1.8		0.010		mg/L	1			6010B	Total Recovera
Chloride	19		1.0		mg/L	1			325.2	Total/NA
Nitrate as N	4.8		0.50		mg/L	10			353.2	Total/NA
Sulfate	60		25		mg/L	5			375.4	Total/NA
Total Organic Carbon	4.2		1.0		mg/L	1			415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Alkalinity	530		5.0		mg/L	1			310.1	Total/NA
Carbon Dioxide, Free	50	B	5.0		mg/L	1			310.1	Total/NA

Client Sample ID: GM-31A-F(0.2)-1111

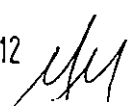
Lab Sample ID: 680-74645-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese, Dissolved	1.8		0.010		mg/L	1			6010B	Dissolved
Dissolved Organic Carbon	4.3		1.0		mg/L	1			415.1	Dissolved

Client Sample ID: GM-31A-1111-AD

Lab Sample ID: 680-74645-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	96	*	9.4		ug/L	1			8270C	Total/NA
2-Nitrobiphenyl	48		9.4		ug/L	1			8270C	Total/NA
2-chloronitrobenzene /	61		19		ug/L	1			8270C	Total/NA
4-chloronitrobenzene										
1-chloro-2,4-dinitrobenzene	26		9.4		ug/L	1			8270C	Total/NA

JAN 04 2012 

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-58A-1111

Lab Sample ID: 680-74645-1

Date Collected: 11/22/11 10:00

Matrix: Water

Date Received: 11/23/11 09:52

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
2,4-Dichlorophenol	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
Nitrobenzene	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
Pentachlorophenol	49	U	49		ug/L		11/29/11 14:16	12/22/11 11:08	1
2,4,6-Trichlorophenol	84	* J	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
1-Chloro-3-nitrobenzene	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
2-Nitrobiphenyl	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
3-Nitrobiphenyl	9.8	U	9.6		ug/L		11/29/11 14:16	12/22/11 11:08	1
3,4-Dichloronitrobenzene	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
4-Nitrobiphenyl	9.8	U	9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1
2-chloronitrobenzene /	270		20		ug/L		11/29/11 14:16	12/22/11 11:08	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	150		9.8		ug/L		11/29/11 14:16	12/22/11 11:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		38 - 130	11/29/11 14:16	12/22/11 11:08	1
2-Fluorophenol	48		25 - 130	11/29/11 14:16	12/22/11 11:08	1
Nitrobenzene-d5	68		39 - 130	11/29/11 14:16	12/22/11 11:08	1
Phenol-d5	50		25 - 130	11/29/11 14:16	12/22/11 11:08	1
Terphenyl-d14	70		10 - 143	11/29/11 14:16	12/22/11 11:08	1
2,4,6-Tribromophenol	97		31 - 141	11/29/11 14:16	12/22/11 11:08	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			12/05/11 18:34	1
Ethylene	1.0	U	1.0		ug/L			12/05/11 18:34	1
Methane	11		0.58		ug/L			12/05/11 18:34	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.19		0.050		mg/L		11/28/11 11:01	11/30/11 03:32	1
Manganese	1.2		0.010		mg/L		11/28/11 11:01	11/30/11 03:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25		1.0		mg/L			12/01/11 12:37	1
Nitrate as N	0.99		0.050		mg/L			11/23/11 16:05	1
Sulfate	73		25		mg/L			12/08/11 12:19	5
Total Organic Carbon	4.0		1.0		mg/L			11/29/11 16:30	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	490		5.0		mg/L			11/23/11 16:39	1
Carbon Dioxide, Free	34	B	5.0		mg/L			11/23/11 16:39	1

JAN 04 2012

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-58A-F(0.2)-1111

Lab Sample ID: 680-74645-2

Date Collected: 11/22/11 10:00

Matrix: Water

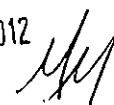
Date Received: 11/23/11 09:52

Method: 6010B - Metals (ICP) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Oil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		11/28/11 11:01	11/30/11 03:37	1
Manganese, Dissolved	1.1		0.010		mg/L		11/28/11 11:01	11/30/11 03:37	1

General Chemistry - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Dissolved Organic Carbon	3.9		1.0		mg/L			12/02/11 10:55	1

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JAN 04 2012



TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-31A-1111

Lab Sample ID: 680-74645-3

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
2,4-Dichlorophenol	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
Nitrobenzene	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
Pentachlorophenol	48	U	48		ug/L		11/29/11 14:16	12/22/11 11:37	1
2,4,6-Trichlorophenol	82	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
1-Chloro-3-nitrobenzene	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
2-Nitrobiphenyl	41		9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
3-Nitrobiphenyl	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
3,4-Dichloronitrobenzene	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
4-Nitrobiphenyl	9.5	U	9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1
2-chloronitrobenzene /	51		19		ug/L		11/29/11 14:16	12/22/11 11:37	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	19		9.5		ug/L		11/29/11 14:16	12/22/11 11:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		38 - 130	11/29/11 14:16	12/22/11 11:37	1
2-Fluorophenol	44		25 - 130	11/29/11 14:16	12/22/11 11:37	1
Nitrobenzene-d5	60		39 - 130	11/29/11 14:16	12/22/11 11:37	1
Phenol-d5	47		25 - 130	11/29/11 14:16	12/22/11 11:37	1
Terphenyl-d14	63		10 - 143	11/29/11 14:16	12/22/11 11:37	1
2,4,6-Tribromophenol	94		31 - 141	11/29/11 14:16	12/22/11 11:37	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			12/01/11 13:55	1
Ethylene	1.0	U	1.0		ug/L			12/01/11 13:55	1
Methane	8.6		0.58		ug/L			12/01/11 13:55	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.46		0.050		mg/L		11/28/11 11:01	11/30/11 03:41	1
Manganese	1.8		0.010		mg/L		11/28/11 11:01	11/30/11 03:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		1.0		mg/L			12/01/11 12:37	1
Nitrate as N	4.8		0.50		mg/L			11/23/11 16:23	10
Sulfate	60		25		mg/L			12/08/11 12:20	5
Total Organic Carbon	4.2		1.0		mg/L			11/29/11 17:32	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	530		5.0		mg/L			11/23/11 16:50	1
Carbon Dioxide, Free	50	B	5.0		mg/L			11/23/11 16:50	1

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JAN 04 2012

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-31A-F(0.2)-1111

Lab Sample ID: 680-74645-4

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		11/28/11 11:01	11/30/11 03:46	1
Manganese, Dissolved	1.8		0.010		mg/L		11/28/11 11:01	11/30/11 03:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.3		1.0		mg/L			12/02/11 10:55	1

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JAN 04 2012



TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-31A-1111-AD

Lab Sample ID: 680-74645-5

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
2,4-Dichlorophenol	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
Nitrobenzene	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
Pentachlorophenol	47	U	47		ug/L		11/29/11 14:16	12/22/11 12:06	1
2,4,6-Trichlorophenol	96	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
1-Chloro-3-nitrobenzene	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
2-Nitrobiphenyl	48		9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
3-Nitrobiphenyl	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
3,4-Dichloronitrobenzene	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
4-Nitrobiphenyl	9.4	U	9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
2-chloronitrobenzene /	61		19		ug/L		11/29/11 14:16	12/22/11 12:06	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	26		9.4		ug/L		11/29/11 14:16	12/22/11 12:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		38 - 130				11/29/11 14:16	12/22/11 12:06	1
2-Fluorophenol	55		25 - 130				11/29/11 14:16	12/22/11 12:06	1
Nitrobenzene-d5	78		39 - 130				11/29/11 14:16	12/22/11 12:06	1
Phenol-d5	59		25 - 130				11/29/11 14:16	12/22/11 12:06	1
Terphenyl-d14	63		10 - 143				11/29/11 14:16	12/22/11 12:06	1
2,4,6-Tribromophenol	115		31 - 141				11/29/11 14:16	12/22/11 12:06	1

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JAN 04 2012

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-74645-1	GM-58A-1111	63	48	68	50	70	97
680-74645-1 MS	GM-58A-1111	65	50	66	50	74	101
680-74645-1 MS	GM-58A-1111	61	48	65	49	60	101
680-74645-1 MSD	GM-58A-1111	60	46	61	51	66	100
680-74645-1 MSD	GM-58A-1111	61	45	63	43	59	99
680-74645-3	GM-31A-1111	57	44	60	47	63	94
680-74645-5	GM-31A-1111-AD	71	55	78	59	63	115
LCS 680-222028/5-A	Lab Control Sample	74	64	79	71	84	115
LCS 680-222028/8-A	Lab Control Sample	80	58	80	63	79	112
MB 680-222028/4-A	Method Blank	77	59	79	63	81	112

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

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JAN 04 2012

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-222028/4-A
Matrix: Water
Analysis Batch: 224425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222028

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
2,4-Dichlorophenol	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
Nitrobenzene	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
Pentachlorophenol	50	U	50		ug/L		11/29/11 14:16	12/22/11 07:44	1
2,4,6-Trichlorophenol	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
2-Nitrobiphenyl	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
3-Nitrobiphenyl	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
4-Nitrobiphenyl	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1
2-chloronitrobenzene /	20	U	20		ug/L		11/29/11 14:16	12/22/11 07:44	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		11/29/11 14:16	12/22/11 07:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		38 - 130	11/29/11 14:16	12/22/11 07:44	1
2-Fluorophenol	59		25 - 130	11/29/11 14:16	12/22/11 07:44	1
Nitrobenzene-d5	79		39 - 130	11/29/11 14:16	12/22/11 07:44	1
Phenol-d5	63		25 - 130	11/29/11 14:16	12/22/11 07:44	1
Terphenyl-d14	81		10 - 143	11/29/11 14:16	12/22/11 07:44	1
2,4,6-Tribromophenol	112		31 - 141	11/29/11 14:16	12/22/11 07:44	1

Lab Sample ID: LCS 680-222028/5-A
Matrix: Water
Analysis Batch: 224425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	100	77.2		ug/L		77	54 - 130
2,4-Dichlorophenol	100	83.2		ug/L		83	54 - 130
Nitrobenzene	100	76.8		ug/L		77	56 - 130
Pentachlorophenol	100	90.3		ug/L		90	42 - 138
2,4,6-Trichlorophenol	100	55.2	*	ug/L		55	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		38 - 130
2-Fluorophenol	64		25 - 130
Nitrobenzene-d5	79		39 - 130
Phenol-d5	71		25 - 130
Terphenyl-d14	84		10 - 143
2,4,6-Tribromophenol	115		31 - 141

Lab Sample ID: LCS 680-222028/8-A
Matrix: Water
Analysis Batch: 224425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Chloro-3-nitrobenzene	100	89.2		ug/L		89	10 - 130
2-Nitrobiphenyl	100	85.9		ug/L		86	10 - 130
3-Nitrobiphenyl	100	97.9		ug/L		98	10 - 130

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-222028/8-A

Matrix: Water

Analysis Batch: 224425

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 222028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3,4-Dichloronitrobenzene	100	88.7		ug/L		89	10 - 130
4-Nitrobiphenyl	100	90.7		ug/L		91	10 - 130
2-chloronitrobenzene /	200	169		ug/L		84	10 - 130
4-chloronitrobenzene							
1-chloro-2,4-dinitrobenzene	100	97.3		ug/L		97	10 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		38 - 130
2-Fluorophenol	58		25 - 130
Nitrobenzene-d5	80		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	79		10 - 143
2,4,6-Tribromophenol	112		31 - 141



Lab Sample ID: 680-74645-1 MS

Matrix: Water

Analysis Batch: 224425

Client Sample ID: GM-58A-1111

Prep Type: Total/NA

Prep Batch: 222028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	O	%Rec	%Rec. Limits
1,1'-Biphenyl	9.8	U	97.4	63.1		ug/L		65	54 - 130
2,4-Dichlorophenol	9.8	U	97.4	69.5		ug/L		68	54 - 130
Nitrobenzene	9.8	U	97.4	74.1		ug/L		70	56 - 130
Pentachlorophenol	49	U	97.4	90.5		ug/L		84	42 - 138
2,4,6-Trichlorophenol	84	*	97.4	152		ug/L		70	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	65		38 - 130
2-Fluorophenol	50		25 - 130
Nitrobenzene-d5	66		39 - 130
Phenol-d5	50		25 - 130
Terphenyl-d14	74		10 - 143
2,4,6-Tribromophenol	101		31 - 141

Lab Sample ID: 680-74645-1 MS

Matrix: Water

Analysis Batch: 224425

Client Sample ID: GM-58A-1111

Prep Type: Total/NA

Prep Batch: 222028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Chloro-3-nitrobenzene	9.8	U	99.2	81.2		ug/L		76	10 - 130
2-Nitrobiphenyl	9.8	U	99.2	88.6		ug/L		83	10 - 130
3-Nitrobiphenyl	9.8	U	99.2	93.5		ug/L		94	10 - 130
3,4-Dichloronitrobenzene	9.8	U	99.2	79.6		ug/L		80	10 - 130
4-Nitrobiphenyl	9.8	U	99.2	86.2		ug/L		87	10 - 130
2-chloronitrobenzene /	270		198	395		ug/L		62	10 - 130
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	150		99.2	212	E	ug/L		62	10 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	61		38 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-74645-1 MS
Matrix: Water
Analysis Batch: 224425

Client Sample ID: GM-58A-1111
Prep Type: Total/NA
Prep Batch: 222028

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	48		25 - 130
Nitrobenzene-d5	65		39 - 130
Phenol-d5	49		25 - 130
Terphenyl-d14	60		10 - 143
2,4,6-Tribromophenol	101		31 - 141

Lab Sample ID: 680-74645-1 MSD
Matrix: Water
Analysis Batch: 224425

Client Sample ID: GM-58A-1111
Prep Type: Total/NA
Prep Batch: 222028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	9.8	U	92.1	56.5		ug/L		61	54 - 130	11	50
2,4-Dichlorophenol	9.8	U	92.1	62.0		ug/L		64	54 - 130	11	50
Nitrobenzene	9.8	U	92.1	63.1		ug/L		62	56 - 130	16	50
Pentachlorophenol	49	U	92.1	83.9		ug/L		82	42 - 138	8	50
2,4,6-Trichlorophenol	84	*	92.1	139		ug/L		59	57 - 130	9	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	60		38 - 130
2-Fluorophenol	46		25 - 130
Nitrobenzene-d5	61		39 - 130
Phenol-d5	51		25 - 130
Terphenyl-d14	66		10 - 143
2,4,6-Tribromophenol	100		31 - 141

Lab Sample ID: 680-74645-1 MSD
Matrix: Water
Analysis Batch: 224425

Client Sample ID: GM-58A-1111
Prep Type: Total/NA
Prep Batch: 222028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Chloro-3-nitrobenzene	9.8	U	91.7	74.8		ug/L		75	10 - 130	8	50
2-Nitrobiphenyl	9.8	U	91.7	82.2		ug/L		83	10 - 130	7	50
3-Nitrobiphenyl	9.8	U	91.7	90.5		ug/L		99	10 - 130	3	50
3,4-Dichloronitrobenzene	9.8	U	91.7	72.1		ug/L		79	10 - 130	10	50
4-Nitrobiphenyl	9.8	U	91.7	83.0		ug/L		91	10 - 130	4	50
2-chloronitrobenzene /	270		183	381		ug/L		59	10 - 130	4	50
4-chloronitrobenzene											
1-chloro-2,4-dinitrobenzene	150		91.7	199	E	ug/L		52	10 - 130	7	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	61		38 - 130
2-Fluorophenol	45		25 - 130
Nitrobenzene-d5	63		39 - 130
Phenol-d5	43		25 - 130
Terphenyl-d14	59		10 - 143
2,4,6-Tribromophenol	99		31 - 141

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-222417/4

Matrix: Water

Analysis Batch: 222417

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			12/01/11 11:22	1
Ethylene	1.0	U	1.0		ug/L			12/01/11 11:22	1
Methane	0.58	U	0.58		ug/L			12/01/11 11:22	1

Lab Sample ID: LCS 680-222417/2

Matrix: Water

Analysis Batch: 222417

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	282	340		ug/L		120	75 - 125
Ethylene	271	332		ug/L		123	75 - 125
Methane	153	190		ug/L		125	75 - 125



Lab Sample ID: LCSD 680-222417/5

Matrix: Water

Analysis Batch: 222417

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	282	325		ug/L		115	75 - 125	4	30
Ethylene	271	332		ug/L		123	75 - 125	0	30
Methane	153	181		ug/L		118	75 - 125	5	30

Lab Sample ID: MB 680-222741/4

Matrix: Water

Analysis Batch: 222741

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			12/05/11 16:05	1
Ethylene	1.0	U	1.0		ug/L			12/05/11 16:05	1
Methane	0.58	U	0.58		ug/L			12/05/11 16:05	1

Lab Sample ID: LCS 680-222741/2

Matrix: Water

Analysis Batch: 222741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	282	304		ug/L		108	75 - 125
Ethylene	271	302		ug/L		111	75 - 125
Methane	153	171		ug/L		112	75 - 125

Lab Sample ID: LCSD 680-222741/3

Matrix: Water

Analysis Batch: 222741

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	282	311		ug/L		110	75 - 125	2	30
Ethylene	271	304		ug/L		112	75 - 125	1	30
Methane	153	175		ug/L		115	75 - 125	2	30

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-221925/1-A
Matrix: Water
Analysis Batch: 222208

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 221925

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		11/28/11 11:01	11/30/11 01:45	1
Iron, Dissolved	0.050	U	0.050		mg/L		11/28/11 11:01	11/30/11 01:45	1
Manganese	0.010	U	0.010		mg/L		11/28/11 11:01	11/30/11 01:45	1
Manganese, Dissolved	0.010	U	0.010		mg/L		11/28/11 11:01	11/30/11 01:45	1

Lab Sample ID: LCS 680-221925/2-A
Matrix: Water
Analysis Batch: 222208

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 221925

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.13		mg/L		113	75 - 125
Iron, Dissolved	1.00	1.13		mg/L		113	75 - 125
Manganese	0.500	0.563		mg/L		113	75 - 125
Manganese, Dissolved	0.500	0.563		mg/L		113	75 - 125



Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-221898/5
Matrix: Water
Analysis Batch: 221898

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			11/23/11 15:36	1
Carbon Dioxide, Free	6.80		5.0		mg/L			11/23/11 15:36	1

Lab Sample ID: LCS 680-221898/6
Matrix: Water
Analysis Batch: 221898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	183	167		mg/L		91	80 - 120

Lab Sample ID: LCSD 680-221898/16
Matrix: Water
Analysis Batch: 221898

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	183	177		mg/L		97	80 - 120	6	30

Lab Sample ID: 680-74645-3 DU
Matrix: Water
Analysis Batch: 221898

Client Sample ID: GM-31A-1111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	530		522		mg/L		2	30
Carbon Dioxide, Free	50	B	46.4		mg/L		7	30

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 325.2 - Chloride

Lab Sample ID: MB 680-222364/18
Matrix: Water
Analysis Batch: 222364

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			12/01/11 12:46	1

Lab Sample ID: LCS 680-222364/2
Matrix: Water
Analysis Batch: 222364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.8		mg/L		102	85 - 115



Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-222264/14
Matrix: Water
Analysis Batch: 222264

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			11/23/11 15:59	1

Lab Sample ID: LCS 680-222264/15
Matrix: Water
Analysis Batch: 222264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.497	0.500		mg/L		101	90 - 110
Nitrate Nitrite as N	0.998	0.990		mg/L		99	90 - 110
Nitrite as N	0.502	0.490		mg/L		98	90 - 110

Lab Sample ID: 680-74645-3 MS
Matrix: Water
Analysis Batch: 222264

Client Sample ID: GM-31A-1111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	4.8		0.497	5.23	4	mg/L		87	90 - 110
Nitrate Nitrite as N	4.8		0.998	5.73	4	mg/L		94	90 - 110
Nitrite as N	0.50		0.502	0.505		mg/L		101	90 - 110

Lab Sample ID: 680-74645-3 MSD
Matrix: Water
Analysis Batch: 222264

Client Sample ID: GM-31A-1111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	4.8		0.497	5.23	4	mg/L		86	90 - 110	0	10
Nitrate Nitrite as N	4.8		0.998	5.74	4	mg/L		94	90 - 110	0	10
Nitrite as N	0.50		0.502	0.510		mg/L		102	90 - 110	1	10

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-223009/1

Matrix: Water

Analysis Batch: 223009

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			12/08/11 11:23	1

Lab Sample ID: LCS 680-223009/2

Matrix: Water

Analysis Batch: 223009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	20.1		mg/L		101	75 - 125

Method: 415.1 - TOC

Lab Sample ID: MB 680-222156/2

Matrix: Water

Analysis Batch: 222156

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			11/29/11 11:07	1

Lab Sample ID: LCS 680-222156/4

Matrix: Water

Analysis Batch: 222156

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	19.7		mg/L		99	80 - 120

Lab Sample ID: 680-74645-1 DU

Matrix: Water

Analysis Batch: 222156

Client Sample ID: GM-58A-1111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	OU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	4.0		3.79		mg/L		4	25

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

GC/MS Semi VOA

Prep Batch: 222028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	3520C	
680-74645-1 MS	GM-58A-1111	Total/NA	Water	3520C	
680-74645-1 MS	GM-58A-1111	Total/NA	Water	3520C	
680-74645-1 MSD	GM-58A-1111	Total/NA	Water	3520C	
680-74645-1 MSD	GM-58A-1111	Total/NA	Water	3520C	
680-74645-3	GM-31A-1111	Total/NA	Water	3520C	
680-74645-5	GM-31A-1111-AD	Total/NA	Water	3520C	
LCS 680-222028/5-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 680-222028/8-A	Lab Control Sample	Total/NA	Water	3520C	
MB 680-222028/4-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 224425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	8270C	222028
680-74645-1 MS	GM-58A-1111	Total/NA	Water	8270C	222028
680-74645-1 MS	GM-58A-1111	Total/NA	Water	8270C	222028
680-74645-1 MSD	GM-58A-1111	Total/NA	Water	8270C	222028
680-74645-1 MSD	GM-58A-1111	Total/NA	Water	8270C	222028
680-74645-3	GM-31A-1111	Total/NA	Water	8270C	222028
680-74645-5	GM-31A-1111-AD	Total/NA	Water	8270C	222028
LCS 680-222028/5-A	Lab Control Sample	Total/NA	Water	8270C	222028
LCS 680-222028/8-A	Lab Control Sample	Total/NA	Water	8270C	222028
MB 680-222028/4-A	Method Blank	Total/NA	Water	8270C	222028

GC VOA

Analysis Batch: 222417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-3	GM-31A-1111	Total/NA	Water	RSK-175	
LCS 680-222417/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-222417/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-222417/4	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 222741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	RSK-175	
LCS 680-222741/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-222741/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-222741/4	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 221925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total Recoverable	Water	3005A	
680-74645-2	GM-58A-F(0.2)-1111	Dissolved	Water	3005A	
680-74645-3	GM-31A-1111	Total Recoverable	Water	3005A	
680-74645-4	GM-31A-F(0.2)-1111	Dissolved	Water	3005A	
LCS 680-221925/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-221925/1-A	Method Blank	Total Recoverable	Water	3005A	

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Metals (Continued)

Analysis Batch: 222208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total Recoverable	Water	6010B	221925
680-74645-2	GM-58A-F(0.2)-1111	Dissolved	Water	6010B	221925
680-74845-3	GM-31A-1111	Total Recoverable	Water	6010B	221925
680-74645-4	GM-31A-F(0.2)-1111	Dissolved	Water	6010B	221925
LCS 680-221925/2-A	Lab Control Sample	Total Recoverable	Water	6010B	221925
MB 680-221925/1-A	Method Blank	Total Recoverable	Water	6010B	221925

General Chemistry

Analysis Batch: 221898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	310.1	
680-74645-3	GM-31A-1111	Total/NA	Water	310.1	
680-74645-3 DU	GM-31A-1111	Total/NA	Water	310.1	
LCS 680-221898/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-221898/16	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-221898/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 222156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	415.1	
880-74645-1 DU	GM-58A-1111	Total/NA	Water	415.1	
680-74645-3	GM-31A-1111	Total/NA	Water	415.1	
LCS 680-222156/4	Lab Control Sample	Total/NA	Water	415.1	
MB 680-222156/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 222264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	353.2	
680-74645-3	GM-31A-1111	Total/NA	Water	353.2	
680-74645-3 MS	GM-31A-1111	Total/NA	Water	353.2	
680-74645-3 MSD	GM-31A-1111	Total/NA	Water	353.2	
LCS 680-222264/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-222264/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 222364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	325.2	
680-74645-3	GM-31A-1111	Total/NA	Water	325.2	
LCS 680-222364/2	Lab Control Sample	Total/NA	Water	325.2	
MB 680-222364/18	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 222599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-2	GM-58A-F(0.2)-1111	Dissolved	Water	415.1	
680-74645-4	GM-31A-F(0.2)-1111	Dissolved	Water	415.1	

Analysis Batch: 223009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-74645-1	GM-58A-1111	Total/NA	Water	375.4	
680-74645-3	GM-31A-1111	Total/NA	Water	375.4	
LCS 680-223009/2	Lab Control Sample	Total/NA	Water	375.4	

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

General Chemistry (Continued)

Analysis Batch: 223009 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-223009/1	Method Blank	Total/NA	Water	375.4	



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TestAmerica Savannah

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-58A-1111

Lab Sample ID: 680-74645-1

Date Collected: 11/22/11 10:00

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			509.2 mL	0.5 mL	222028	11/29/11 14:16	RBS	TAL SAV
Total/NA	Analysis	8270C		1			224425	12/22/11 11:08	LH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	222741	12/05/11 18:34	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	221925	11/28/11 11:01	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			222208	11/30/11 03:32	BCB	TAL SAV
Total/NA	Analysis	310.1		1	1.0 mL	1.0 mL	221898	11/23/11 18:39	CDJ	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	222156	11/29/11 16:30	JR	TAL SAV
Total/NA	Analysis	353.2		1	2.0 mL	2.0 mL	222264	11/23/11 16:05	JNC	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	222364	12/01/11 12:37	JR	TAL SAV
Total/NA	Analysis	375.4		5	2 mL	2 mL	223009	12/08/11 12:19	JR	TAL SAV

Client Sample ID: GM-58A-F(0.2)-1111

Lab Sample ID: 680-74645-2

Date Collected: 11/22/11 10:00

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	221925	11/28/11 11:01	RAM	TAL SAV
Dissolved	Analysis	6010B		1			222208	11/30/11 03:37	BCB	TAL SAV
Dissolved	Analysis	415.1		1			222599	12/02/11 10:55	JR	TAL SAV

Client Sample ID: GM-31A-1111

Lab Sample ID: 680-74645-3

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1052.3 mL	1 mL	222028	11/29/11 14:16	RBS	TAL SAV
Total/NA	Analysis	8270C		1			224425	12/22/11 11:37	LH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	222417	12/01/11 13:55	SMC	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	221925	11/28/11 11:01	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1			222208	11/30/11 03:41	BCB	TAL SAV
Total/NA	Analysis	310.1		1	1.0 mL	1.0 mL	221898	11/23/11 16:50	CDJ	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	222156	11/29/11 17:32	JR	TAL SAV
Total/NA	Analysis	353.2		10	2.0 mL	2.0 mL	222264	11/23/11 16:23	JNC	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	222364	12/01/11 12:37	JR	TAL SAV
Total/NA	Analysis	375.4		5	2 mL	2 mL	223009	12/08/11 12:20	JR	TAL SAV

Client Sample ID: GM-31A-F(0.2)-1111

Lab Sample ID: 680-74645-4

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	221925	11/28/11 11:01	RAM	TAL SAV
Dissolved	Analysis	6010B		1			222208	11/30/11 03:46	BCB	TAL SAV

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Client Sample ID: GM-31A-F(0.2)-1111

Lab Sample ID: 680-74645-4

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	415.1		1			222599	12/02/11 10:55	JR	TAL SAV

Client Sample ID: GM-31A-1111-AD

Lab Sample ID: 680-74645-5

Date Collected: 11/22/11 11:35

Matrix: Water

Date Received: 11/23/11 09:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1058.4 mL	1 mL	222028	11/29/11 14:16	RBS	TAL SAV
Total/NA	Analysis	8270C		1			224425	12/22/11 12:06	LH	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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JAN 04 2012

TestAmerica Savannah

Chain of Custody Record

TestAmerica Laboratories, Inc.

Client Contact URS Corporation 1001 Highlands Plaza Drive West, Suite 300 St. Louis, MO 63110 (314) 429-0100 Phone (314) 429-0462 FAX Project Name: 4Q11 Route 3 GW Sampling Site: Solulia WG Krummrich Facility P.O.#		Project Manager: Dave Palmer Tel/Fax: (314) 743-4154 Analysis Turnaround Time Calendar (C) or Work Days (W) <u>W</u> TAT (if different from below) <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Nathan McNurten Lab Contact: Lidya Gulliza Carrier: <u>FEDEX</u>		COC No: <u>1</u> of <u>1</u> COCs Job No: <u>21562687.0004</u> SDG No: <u>2156270309983</u>									
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	SVOCs by 8270C	Total Fe/Mn by 6010B	Al/CO2 by 3101	Chloride by 3253/Sulfate by 3754	Methane by RSK 175	Nitrate by 3532	TOC by 4151	Dissolved Fe/Mn by 6010B	DOC by 4151	Sample Specific Notes
GM-58A-1111 ✓	11/22/11	1000	G	Water	11	2	1	1	1	1	2	1			
GM-58A-1102-1111 ✓		1000	G	Water	2	X							1	1	
GM-58A-1111-MS		1000	G	Water	2	2									
GM-58A-1111-MSD	↓	1000	G	Water	2	2									
4Q11 Route 3 Trip Blank #				Water	2	2									
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown															
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
Special Instructions/QC requirements & Comments: Level 4 Data Package 680 74645 2.6°C / 4.8°C															
Relinquished by:	Company:	URS	Date/Time:	11/22/11 1400	Received by:	Company:	TA	Date/Time:	11/22/11 1400						
Relinquished by:	Company:	TA	Date/Time:	11/22/11 1430	Received by:	Company:	TA	Date/Time:	11/22/11 1430						
Relinquished by:	Company:	TA	Date/Time:	11/23/11 0952	Received by:	Company:	TA	Date/Time:	11/23/11 0952						

White

Savannah
5102 LaRoche Avenue

Savannah, GA 31404

phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Dave Palmer Tel/Fax: (314) 743-4154		Site Contact: Nathan McMullen Lab Contact: Lidya Gullizia		COC No: _____ of _____ COCs	
URS Corporation 1001 Highlands Plaza Drive West, Suite 300 St. Louis, MO 63110		Analysis Turnaround Time Calendar (C) or Work Days (W) <u>C</u> TAT is different from below: <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Carrier: <u>RAEX</u>		Job No. <u>21562682.00004</u> SDG No. <u>2456276300999</u>	
Phone <u>(314) 429-0100</u> FAX <u>(314) 429-0462</u>		Sample Date		Sample Time		Sample Type	
Project Name: 4Q11 Route 3 GW Sampling		11/22/11		1135		G	
Site: Solatia WG Krummrich Facility		↓		1135		G	
PO #		↓		1135		G	
Sample Identification		Matrix		# of Cont.		Sample Specific Notes:	
GM-31A-1111 ✓		Water		11			
GM-31A-1102-1111 ✓		Water		2			
GM-31A-1111-AD ✓		Water		2			
4Q11 Route 3 Trip Blank #		Water		2			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other		1		4		1	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison H <input type="checkbox"/> Unknown		1		4		1	
Special Instructions/QC Requirements & Comments: Level 4 Data Package		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
Relinquished by: <u>[Signature]</u>		Date/Time: 11/22/11 1400		Company: URS		Received by: <u>[Signature]</u>	
Relinquished by: <u>[Signature]</u>		Date/Time: 11/22/11 1400		Company: TA		Received by: <u>[Signature]</u>	
Relinquished by: <u>[Signature]</u>		Date/Time: 11/23/11 0952		Company: TA		Received by: <u>[Signature]</u>	

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-74645-1

SDG Number: KOM014

Login Number: 74645

List Source: TestAmerica Savannah

List Number: 1

Creator: Barnett, Eddie T

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	False	We only received 10 containers for samples -1 and -3, not 11 as listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Certification Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M 4Q11

TestAmerica Job ID: 680-74645-1
SDG: KOM014

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A
TestAmerica Savannah	Arkansas	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Delaware	State Program	3	N/A
TestAmerica Savannah	Florida	NELAC	4	E87052
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kentucky	Kentucky UST	4	18
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	USDA		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	NELAC	3	460161
TestAmerica Savannah	Virginia	State Program	3	302
TestAmerica Savannah	Washington	State Program	10	C1794
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.