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

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

gmrina@eastman.com

November 13, 2017

Ms. Carolyn Bury - LU-16J
U.S. EPA Region 5
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

Re: Route 3 Drum Site Groundwater Monitoring Program
3rd Quarter 2017 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Ms. Bury:

Enclosed please find the Route 3 Drum Site Groundwater Monitoring Program 3rd Quarter 2017 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

On May 2, 2017, Solutia submitted a "Periodic Technical Review" recommending changes to this groundwater monitoring program, along with similar Reviews for the other programs. Solutia will continue each program unchanged, but I'd like to talk with you about getting US EPA's response to our recommendations before implementation of 4th quarter 2017 monitoring, currently postponed from ~ November 1 to ~ December 1 (similar to the 3rd quarter 2017 postponement from ~ August 1 to ~ September 1).

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

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Route 3 Drum Site Groundwater Monitoring Program
3rd Quarter 2017 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

USEPA

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

Solutia

Donn Haines 500 Monsanto Avenue, Sauget, IL 62206-1198

GROUNDWATER MONITORING REPORT

GROUNDWATER MONITORING REPORT

3rd QUARTER 2017 DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER MONITORING
SOLUTIA INC., W.G. KRUMMRICH PLANT
SAUGET, ILLINOIS

Prepared For: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141 USA

Submitted By: Golder Associates Inc.
820 S. Main Street, Suite 100
St. Charles, MO 63301 USA

November 2017 **140-3345**

A world of capabilities delivered locally

Golder Associates

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1.0 INTRODUCTION

Golder Associates Inc. (Golder) is pleased to submit this report summarizing the 3rd Quarter 2017 (3Q17) groundwater sampling activities at the Illinois Route 3 Drum Site (Site), located within "Lot F" on Figure 1. The Site is associated with the Solutia Inc. (Solutia) W.G. Krummrich (WGK) plant in Sauget, Illinois located at 500 Monsanto Avenue, Sauget, Illinois. The 3Q17 sampling event was performed in general accordance with the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Work Plan) (Solutia 2008).

The scope of work detailed in the Work Plan is summarized below.

Two (2) monitoring wells, located in the shallow hydrogeologic unit (SHU), are sampled during the Drum Site monitoring event. The locations of the monitoring wells are shown on Figure 2 and the sample locations are included on the table below.

Area	Location Relative to Area	Sample Identification
Illinois Route 3 Drum Site	Adjacent	GM-31A
	Downgradient	GM-58A

The water levels of the two (2) monitoring wells are measured quarterly and total depths are measured in the 1st quarter of each year.

During the quarterly sampling events, monitoring wells are sampled for the following semi-volatile organic compound (SVOC) analytes: 1,1-biphenyl, 1-chloro-2,4-dinitrobenzene, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2-chloronitrobenzene/4-chloronitrobenzene, 2-nitrobiphenyl, 3,4-dichlorodinitrobenzene, 3-nitrobiphenyl, 3-nitrochlorobenzene, 4-nitrobiphenyl, nitrobenzene, and pentachlorophenol. In addition, the following monitored natural attenuation (MNA) parameters are sampled quarterly to evaluate active natural attenuation occurring at the Site:

- Electron Donors – total and dissolved organic carbon
- Electron Acceptors – iron, manganese, nitrate, sulfate
- Biodegradation Byproducts – carbon dioxide, chloride, methane
- Biodegradation Indicators – alkalinity

2.0 FIELD ACTIVITIES

Golder conducted 3Q17 sampling activities on September 12, 2017. Activities were performed in general accordance with the Work Plan.

2.1 Water Level Measurement

Prior to sampling during the 3Q17 event, Golder performed a synoptic round of water level and total depth measurements at 76 monitoring wells and piezometers on August 31 and September 1, 2017. The following monitoring well series is included in the Drum Site program:

- GM-series

An oil/water interface probe was used to measure the water level (to 0.01 feet) and, if present, detect and measure the thickness of non-aqueous phase liquid (NAPL). During the 3Q17 sampling event, NAPL was not detected in any of the monitoring wells or piezometers. Total depths are measured during the 1st quarter of each year. The 3Q17 well gauging information is shown on Table 1.

2.2 Groundwater Sample Collection

Monitoring wells sampled during the 3Q17 Drum Site event were purged and sampled using low-flow sampling techniques, low-density polyethylene tubing (LDPE) and a submersible (GM-31A) or peristaltic pump (GM-58A). The pump intake was placed at approximately the middle of the screened interval for each well. Purging occurred at a rate of approximately 300 mL/min to reduce drawdown. Drawdown was measured throughout purging activities to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Measurement of field parameters began once the flow rate and drawdown were stable for each well. Parameters were measured for each system volume purged using a multi-parameter meter. The system volume includes the volume of the tubing, the volume of the pump and the volume of the flow-through cell containing the multi-parameter meter. Samples were collected after field parameters were stabilized within the ranges below for three (3) consecutive measurements:

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

The flow rate was adjusted as needed to maintain approximately 300 mL/min during sampling activities. To reduce possible sample cross contamination, the flow-through cell was bypassed and gloves were replaced prior to sampling.

Sample bottles were provided by TestAmerica Laboratories, Inc. (TestAmerica) for the following analyses:

- SVOCs – United States Environmental Protection Agency (USEPA) SW-846 Method 8270D
- MNA parameters – alkalinity and carbon dioxide (USEPA Method 310.1), chloride (USEPA Method 352.5), total and dissolved iron and total and dissolved manganese (USEPA SW-846 Method 6010C), methane, ethane and ethylene (RSK-175), nitrate (USEPA Method 353.2), sulfate (USEPA Method 375.4), and total and dissolved organic carbon (USEPA Method 415.1)

Gas sensitive parameter sample bottles were filled first followed by SVOCs and general chemistry parameters. Ferrous iron was field analyzed with a HACH 890 Colorimeter and HACH AccuVac® ampules. Samples collected for ferrous iron and dissolved analyses were field filtered using an in-line 0.2 micron disposable filter. Groundwater purging and sampling forms are included in Appendix A.

2.3 Quality Assurance and Sample Handling

One (1) analytical duplicate (AD), one (1) equipment blank (EB) and one (1) matrix spike/matrix spike duplicate (MS/MSD) pair were collected during the 3Q17 Drum Site sampling event. Sample bottles were labeled with the date and time of sample collection, sampler initials, analysis requested, preservative used, and sample identification based on the following nomenclature “GM-##A-MMYY-QA/QC” where:

- **“GM”** denotes “Geraghty & Miller” and **“##A”** denotes monitoring well location and number
- **“MMYY”** denotes month and year of sampling quarter, e.g.: September (3rd Quarter), 2017 (0917)
- **“QA/QC”** denotes QA/QC sample
  - **AD** – Analytical Duplicate
  - **EB** – Equipment Blank
  - **MS or MSD** – Matrix Spike or Matrix Spike Duplicate

Samples that were field filtered with an in-line 0.2 micron filter include “F(0.2)” prior to the “MMYY” portion of the sample identification. Sample information was recorded on a chain-of-custody (COC) that included project identification, sample identification, date and time of sample collection, analysis requested, preservative used, sample matrix and type, number of sample containers, sampler signature, and date COC was completed. A copy of the COC is included in Appendix B.

Directly after sampling, sample bottles were placed in an iced cooler to maintain a sample temperature of approximately 4°C. Prior to sample shipment, samples and ice were placed inside two (2) contractor trash bags. The bags were tied and the cooler was sealed between the lid and sides with a signed and dated custody seal. Samples were shipped overnight via FedEx to the TestAmerica facility in Canton, Ohio.

2.4 Decontamination and Investigation Derived Waste

Sampling equipment was decontaminated upon mobilizing to the Site, between sample locations and prior to demobilizing from the Site. Non-dedicated sampling equipment was decontaminated between samples with a non-phosphatic detergent solution and a deionized water rinse.

Investigation derived waste (IDW) was placed in 55-gallon drums, labeled with the generation date and staged for disposal by Solutia. IDW such as gloves and other disposable sampling equipment was bagged for disposal by Solutia.

3.0 QUALITY ASSURANCE

Sample results were provided by TestAmerica in electronic format and reviewed for quality and completeness by Golder in accordance with the Work Plan. Results were submitted in one (1) sample delivery group (SDG) as follows:

Sample Delivery Group (SDG)	Sample Identification
KOM038	GM-58A-0917
	GM-31A-0917
	GM-31A-0917-AD
	GM-31A-0917-EB

Golder completed validation of the analytical data following the general guidelines in the Work Plan, and the most recent versions of the national data validation guidelines. The following guidelines were generally used:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA-540-R-08-01, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-10-011, January 2010

Although some data required qualifications due to quality control criteria that were not achieved, the data were deemed usable. Qualifications are included in Appendix C. The completeness for the data set was 100%.

4.0 OBSERVATIONS

SVOCs were not detected in groundwater samples collected from monitoring well GM-58A during the 3Q17 sampling event. The SVOC 2,4,6-trichlorophenol was detected in GM-31A and GM-31A-AD at a concentration of 15 µg/L. Groundwater analytical data for SVOCs and MNA parameters is presented in Tables 2 and 3, respectively. The groundwater analytical laboratory results including data validation reports are included in Appendix D.

5.0 CLOSING

Golder appreciates the opportunity to assist Solutia Inc. with the Illinois Route 3 Drum Site groundwater sampling events. Please contact the undersigned if you need additional information.

Sincerely,

GOLDER ASSOCIATES INC.

Amanda W. Derhake, Ph.D., P.E.
Associate, Senior Engineer

for
Mark N. Haddock, R.G., P.E.
Principal, Senior Consultant

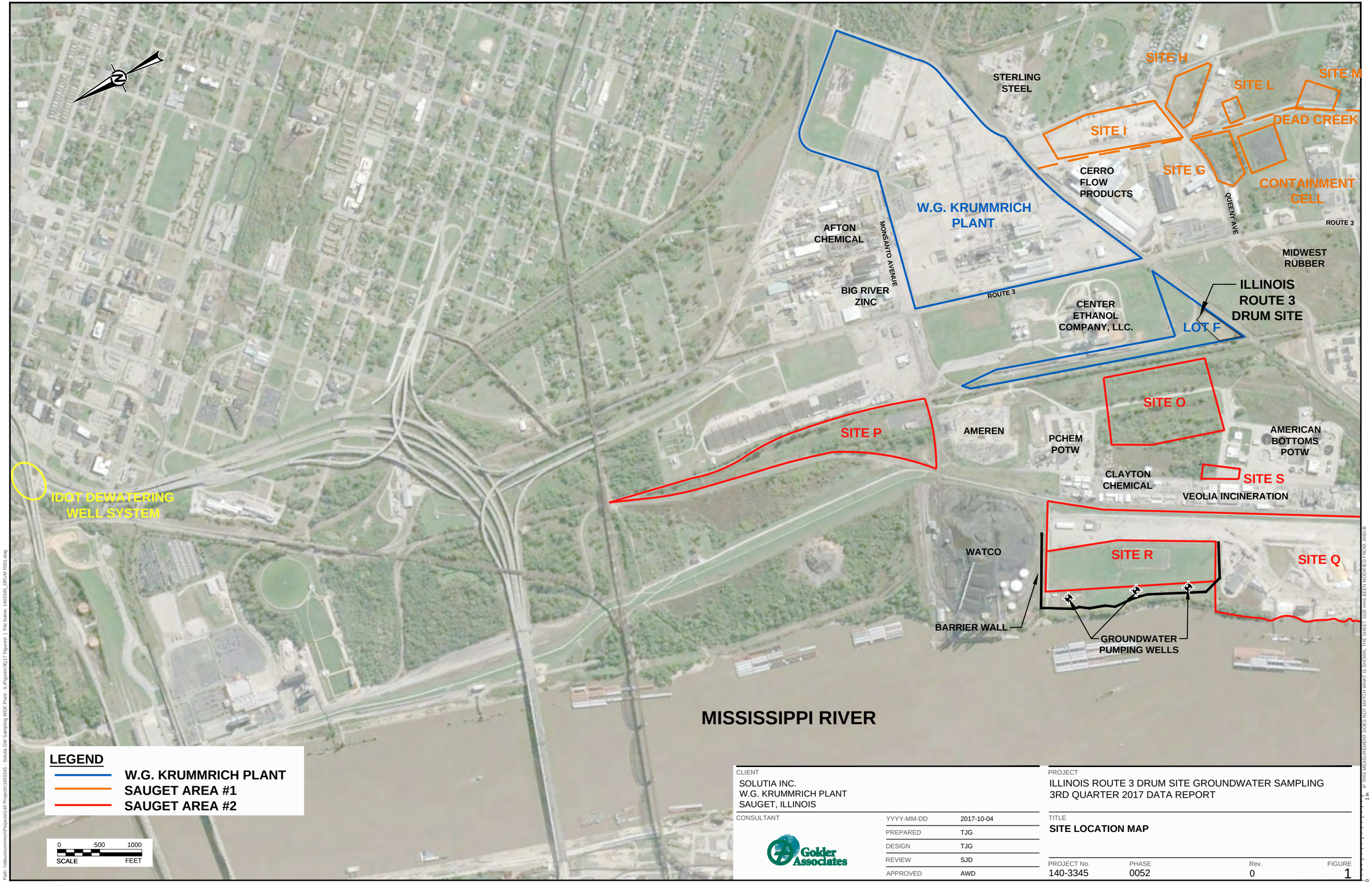
6.0 REFERENCES

Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.

USEPA, 2008. Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review.

USEPA, 2010. Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review.

FIGURES



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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in
0

CLIENT
SOLUTIA INC.
W.G. KRUMMRICH PLANT
SAUGET, ILLINOIS

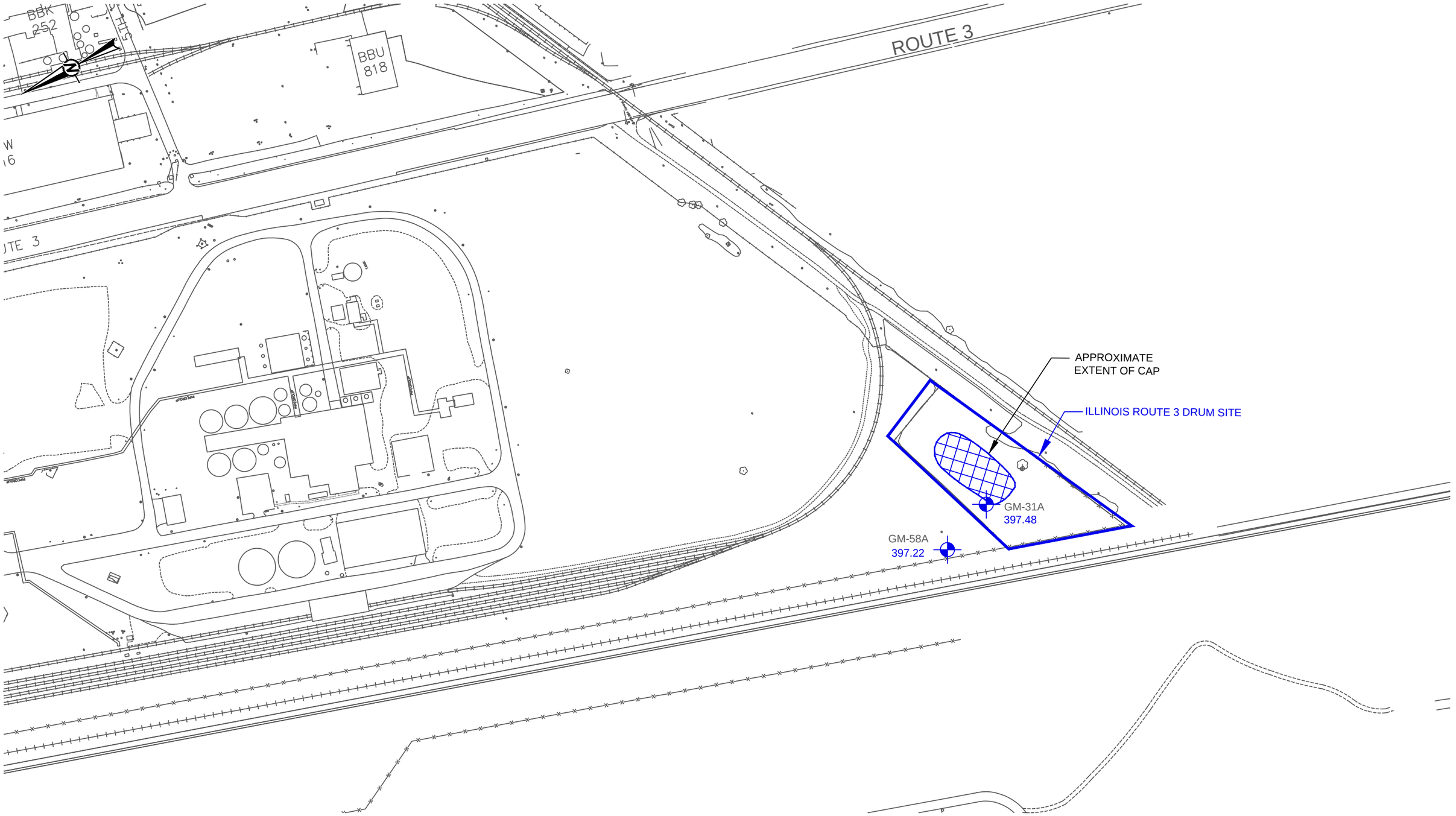
CONSULTANT
Golder Associates

YYYY-MM-DD	2017-10-04
PREPARED	TJG
DESIGN	TJG
REVIEW	SJD
APPROVED	AWD

PROJECT
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
3RD QUARTER 2017 DATA REPORT

TITLE
SITE LOCATION MAP

PROJECT No.	PHASE	Rev.	FIGURE
140-3345	0052	0	1



LEGEND

MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (FT NAVD)

NOTES

1. REFER TO TABLE 1 FOR MONITORING WELL CONSTRUCTION INFORMATION.

0 100 200
SCALE FEET

CLIENT
SOLUTIA INC.
W.G. KRUMMRICH PLANT
SAUGET, ILLINOIS

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-10-04
PREPARED	TJG
DESIGN	TJG
REVIEW	SJD
APPROVED	AWD

PROJECT
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
3RD QUARTER 2017 DATA REPORT

TITLE
MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATION MAP

PROJECT No.	PHASE	Rev.	FIGURE
140-3345	0052	0	2

TABLES

Table 1
Monitoring Well Gauging Information
3Q17 Route 3 Drum Site Monitoring Program
Solutia Inc., W.G. Krummrich Plant
Sauget, Illinois

Well Identification	Monitoring Well Construction Data						3Q17 - August 31, 2017			
	Ground Surface Elevation[1] (ft)	Top of Casing Elevation[1] (ft)	Top of Screen Depth (ft bgs)	Bottom of Screen Depth (ft bgs)	Top of Screen Elevation[1] (ft)	Bottom of Screen Elevation[1] (ft)	Water Level (ft btoc)	Depth to NAPL (ft btoc)	Total Depth[2] (ft btoc)	Water Level Elevation[1] (ft)
SHU 395-380 ft NAVD 88										
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	21.15	NP	39.67	397.48
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	17.02	NP	40.78	397.22

Notes
ft - feet
bgs - below ground surface
btoc - below top of casing
NP - no product observed
SHU - shallow hydrogeologic unit
[1] - Elevations based on North American Vertical Datum (NAVD) 88 datum.
[2] - Total depths are measured annually during the first quarter of each year.

Prepared By: SJD 09/01/2017
Checked By: TJG 10/04/2017
Reviewed By: AWD 11/01/2017

Table 2
Groundwater Analytical Results
3Q17 Route 3 Drum Site Monitoring Program
Solutia Inc., W.G. Krummrich Plant
Sauget, Illinois

Sample Identification	Sample Date	SVOCs (µg/L)											
		1,1'-Biphenyl	1-Chloro-2,4-Dinitrobenzene	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2-Chloronitrobenzene/ 4-Chloronitrobenzene	2-Nitrobiphenyl	3,4-Dichloronitrobenzene	3-Nitrobiphenyl	3-Nitrochlorobenzene	4-Nitrobiphenyl	Nitrobenzene	Pentachlorophenol
SHU													
GM-31A-0917	9/12/2017	<9.6	<9.6	**15**	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<48
GM-31A-0917-AD	9/12/2017	<9.5	<9.5	**15**	<9.5	<19	<9.5	<9.5	<9.5	<9.5	<9.5	<9.5	<48
GM-58A-0917	9/12/2017	<9.6	<9.6	<9.6	<9.6	<19	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<48

Notes
SVOCs - semi-volatile organic compounds
µg/L - micrograms per liter
< - result is non-detect, less than the reporting limit
AD - analytical duplicate

Prepared By: TJG 10/04/2017
Checked By: BCW 10/23/2017
Reviewed By: AWD 11/01/2017

Table 3
3Q17 Route 3 Drum Site Monitoring Program
Solutia Inc., W.G. Krummrich Plant
Sauget, Illinois

Sample Identification	Sample Date	Monitored Natural Attenuation Parameters																
		Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (µg/L)	Ethylene (µg/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)	Total Organic Carbon (mg/L)	Dissolved Organic Carbon (mg/L)	ORP (mV)
SHU																		
GM-31A-0917	9/12/2017	430	18	18	0.06	<0.50	<0.50	-	0.22	-	0.88	-	0.70	1.2	53 D	3.3	-	83.57
GM-31A-F(0.2)-0917	9/12/2017	-	-	-	-	-	-	0.0	-	<0.050	-	0.83	-	-	-	-	3.7	-
GM-58A-0917	9/12/2017	440	16	25	0	<0.50	<0.50	-	0.30	-	0.75	-	<0.50	0.93	71 D	3.4	-	70.65
GM-58A-F(0.2)-0917	9/12/2017	-	-	-	-	-	-	0.0	-	<0.050	-	0.77	-	-	-	-	3.7	-

Notes

Dissolved Oxygen (DO) and Oxidation Reduction Potential (ORP) values represent the final field measurements prior to sampling
Ferrous Iron was field measured using a 0.2 µm field filtered sample
F(0.2) - sample was field filtered using a 0.2 µm filter during sample collection
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
< - result is non-detect, less than the reporting limit
"-" - not analyzed
D - compound analyzed at a dilution
SHU - shallow hydrogeologic unit

Prepared By: TJG 10/04/2017
Checked By: BCW 10/23/2017
Reviewed By: AWD 11/01/2017

APPENDIX A
GROUNDWATER PURGING AND SAMPLING FORMS

In-Situ Inc.

9/12/2017

Low-Flow System
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	SJD	Pump Model/Type	SS Monsoon
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Drum	Tubing Diameter	0.19 in
Site Name	W.G.K.	Tubing Length	44.32 ft
		Pump Placement from TOC	31.00 ft

Well Information:		**Pumping Information:**	
Well Id	GM-31A	Final Pumping Rate	300 mL/min
Well Diameter	2 in	System Volume	437 mL
Well Total Depth	39.67 ft	Calculated Sample Rate	87 sec
Depth to Top of Screen	21.00 ft	Sample Rate	87 sec
Screen Length	20 ft	Stabilized Drawdown	0.00 ft
Depth to Water	21.83 ft		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1 +/-3%	+/-1 +/-10%	+/-0.2 +/-10%	+/-20
Last 5 Readings	12:21:08	17.96	6.72	895.21	14.2	0.12	89.88
	12:22:35	17.56	6.72	899.77	10.7	0.09	86.48
	12:24:02	17.55	6.73	897.92	11.2	0.07	85.10
	12:25:29	17.59	6.73	898.32	9.07	0.06	84.39
	12:26:57	17.62	6.74	892.71	7.30	0.06	83.57
Variance in Last 3 Readings		-0.01	0.01	-1.85	0.50	-0.02	-1.38
		0.04	0.00	0.40	-2.13	-0.01	-0.71
		0.03	0.01	-5.61	-1.77	0.00	-0.82

Notes:

In-Situ Inc.

9/12/2017

Low-Flow System
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	SJD	Pump Model/Type	Peristaltic
Company Name	Golder Associates	Tubing Type	LDPE
Project Name	Drum	Tubing Diameter	0.19 in
Site Name	W.G.K.	Tubing Length	48.33 ft
		Pump Placement from TOC	31.40 ft

Well Information:		**Pumping Information:**	
Well Id	GM-58A	Final Pumping Rate	300 mL/min
Well Diameter	2 in	System Volume	359 mL
Well Total Depth	40.78 ft	Calculated Sample Rate	71 sec
Depth to Top of Screen	21.40 ft	Sample Rate	71 sec
Screen Length	20 ft	Stabilized Drawdown	0.00 ft
Depth to Water	17.73 ft		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1 +/-3%	+/-1 +/-10%	+/-0.2 +/-10%	+/-20
Last 5 Readings	11:37:21	16.27	6.84	918.14	10.5	0.01	71.20
	11:38:32	16.28	6.84	931.53	13.0	0.01	70.97
	11:39:43	16.31	6.84	935.34	11.4	0.00	70.66
	11:40:54	16.33	6.86	932.87	11.2	0.00	69.63
	11:42:05	16.37	6.86	936.11	8.48	0.00	70.65
Variance in Last 3 Readings		0.03	0.00	3.81	-1.60	-0.01	-0.31
		0.02	0.02	-2.47	-0.20	0.00	-1.03
		0.04	0.00	3.24	-2.72	0.00	1.02

Notes:

APPENDIX B
CHAIN-OF-CUSTODY

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
phone 912 354 7858 fax

2.6/C2.6
3.0/C3.0

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☑RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Amanda Derhake	Site Contact: Samantha DiCenso	Date: 9/12/17	COC No:
Golder Associates Inc	Tel/Fax: 636-724-9191	Lab Contact: Kathy Smith	Carrier: FedEx	1 of 1 COCs
820 South Main Street	Analysis Turnaround Time			Sampler:
St. Charles, MO 63301	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(636) 724-9191 Phone	TAT if different from Below			Walk-in Client:
(636) 724-9323 FAX	☑ 2 weeks			Lab Sampling:
Project Name: 3Q17 Drum Site GW Sampling-1403345	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			Job / SDG No.:
P O # 42262863	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	SVOCs by 8270	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Table by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes
GM-31A-0917	9/12/17	1228	G	W	12	N		2	1	1	1	3	1	3			
GM-31A-F(0.2)-0917		1228			4	Y									1	3	
GM-31A-0917-AD		1228			2	N		2									
GM-31A-0917-EB		1314			2	N		2									
GM-58A-0917		1044			12	N		2	1	1	1	3	1	3			
GM-58A-F(0.2)-0917		1044			4	Y									1	3	
GM-58A-0917-MS		1044			2	N		2									
GM-58A-0917-MSD		1044			2	N		2									
								1	4	1	1	2	3,1	3	4	3	

240-84874 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Samantha DiCenso	Golder	9/12/17 1100		TM	09/13/17 930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 29 of 35

SSD 10/11/17

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kersey, Michele R	Carrier Tracking No(s):	COC No: 240-75706.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: michele.kersey@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 240-84874-1
Address: 5102 LaRoche Avenue	Due Date Requested: 9/25/2017			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: WGK Long Term Monitoring (LTM)	Project #: 08001754			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA

M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	310.1/ Alkalinity & CO2, Free	325.2/ Chloride	375.4/ Sulfate	415.1	6010C/3005A Metals, Total (Fe/Mn)	8260D/5030C (MOD) TCL (same as TCL-SV-GV list)	6010C/FIELD_FLTRD Metals, Dissolved (Fe & Mn)	415.1_Diss/FIELD_FLTRD DOC (FF)	Total Number of containers	Special Instructions/Note:
			Preservation Code:													
GM-31A-0917 (240-84874-1)	9/12/17	12:28 Central		Water			X	X	X	X	X	X			8	
GM-31A-F(0-2)-0917 (240-84874-2)	9/12/17	12:28 Central		Water									X	X	4	
GM-31A-0917-AD (240-84874-3)	9/12/17	12:28 Central		Water								X			2	
GM-31A-0917-EB (240-84874-4)	9/12/17	13:14 Central		Water								X			2	
GM-58A-0917 (240-84874-5)	9/12/17	10:44 Central		Water			X	X	X	X	X	X			12	
GM-58A-0917 (240-84874-5MS)	9/12/17	10:44 Central	MS	Water								X			1	
GM-58A-0917 (240-84874-5MSD)	9/12/17	10:44 Central	MSD	Water								X			1	
GM-58A-F(0-2)-0917 (240-84874-6)	9/12/17	10:44 Central		Water									X	X	4	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification Unconfirmed		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	9-13-17 1430	240	[signature]	9-14-17 935	[signature]

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4/1.5

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SSD 10/11/17

APPENDIX C
QUALITY ASSURANCE REPORT

QUALITY ASSURANCE REPORT

QUALITY ASSURANCE REPORT

3rd QUARTER 2017
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER MONITORING
SOLUTIA INC., W.G. KRUMMRICH PLANT
SAUGET, ILLINOIS

Prepared For: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141 USA

Submitted By: Golder Associates Inc.
820 S. Main Street, Suite 100
St. Charles, MO 63301 USA

November 2017 **140-3345**

A world of capabilities delivered locally

Golder Associates

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1.0 INTRODUCTION

Golder Associates Inc. (Golder) completed a review of analytical data for the groundwater samples collected on September 12, 2017 at the Illinois Route 3 Drum Site (Site) associated with the Solutia Inc. (Solutia) W.G. Krummrich (WGK) plant in Sauget, Illinois. Golder collected a total of six (6) samples from groundwater monitoring wells as part of the 3rd Quarter 2017 (3Q17) Illinois Route 3 Drum Site groundwater monitoring. Two (2) groundwater samples, one (1) equipment blank (EB), one (1) analytical duplicate (AD), and one (1) matrix spike/matrix spike duplicate (MS/MSD) pair were prepared. Groundwater monitoring location GM-31A is located at the Site and monitoring location GM-58A is located just north of the Site. The samples were submitted to the TestAmerica Laboratories, Inc. (TestAmerica) facility located in Canton, Ohio and Savannah, Georgia for analysis using United States Environmental Protection Agency (USEPA) methods, standard methods and USEPA SW-846 test methods. Samples submitted to TestAmerica were analyzed for semi-volatile organic compounds (SVOCs), total and dissolved metals, dissolved gases, and general chemistry parameters. The analytical results were placed into one (1) sample delivery group (SDG) as described in the table below:

Sample Delivery Group (SDG)	Sample Identification
KOM038	GM-58A-0917
	GM-31A-0917
	GM-31A-0917-AD
	GM-31A-0917-EB

The samples were collected and analyzed in general accordance with the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Work Plan) (Solutia 2008). The groundwater monitoring well samples were analyzed for SVOCs, total and dissolved metals, dissolved gases, and general chemistry parameters. The general chemistry parameters included chloride, nitrate, sulfate, total organic carbon (TOC), alkalinity, carbon dioxide, and dissolved organic carbon (DOC). One (1) EB, one (1) AD, and one (1) MS/MSD pair were submitted and analyzed for SVOCs only. The following analytical methods used are from USEPA document SW-846, Test Methods for Evaluating Solid Waste, Revision 6 contained in Final Update III August 2002 and listed below:

- SVOCs were analyzed using USEPA SW-846 Method 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
- Total and Dissolved Iron and Manganese analyzed by USEPA SW-846 Method 6010C Inductively Coupled Plasma-Atomic Emission Spectrometry

The following standard methods were used to analyze monitored natural attenuation (MNA) parameters:

- Dissolved Gases analyzed by Method RSK-175
- Alkalinity and Free Carbon Dioxide analyzed by USEPA Method 310.1 by Titration
- Chloride analyzed by USEPA Method 325.2 by Automated Colorimetry

- Nitrogen, Nitrate analyzed by USEPA Method 353.2 by Automated Colorimetry
- Sulfate analyzed by USEPA Method 375.4 by Spectrophotometer
- Total and Dissolved Organic Carbon analyzed by USEPA Method 415.1

Golder completed validation of the analytical data following the general guidelines in the Work Plan. The most recent versions of the national data validation guidelines were used for data review. The following guidelines were generally used:

- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, EPA-540-R-08-01, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-10-011, January 2010

These documents are hereafter referred to as the "functional guidelines". If there was a conflict between the functional guidelines and the quality control criteria specified in the analytical method, the method-specific criteria were used. The SDG was prepared as a Level IV data report package containing quality control information and raw data. Golder completed Level III review of 100% of the analytical data and Level IV review of 10% of the analytical data.

Data that has been qualified by the data validator has been added to the laboratory report. The qualifiers indicate data that did not meet acceptance criteria and corrective actions were not successful or not performed. Laboratory data qualifiers are defined below:

- U – The analyte was analyzed for but not was not detected

Golder data qualifiers are defined below:

- D – The analyte was analyzed at a dilution

Sections 2 and 3 summarize the specific instances where quality control criteria in the functional guidelines were not met. As specified in the functional guidelines, if the non-adherence to quality control criteria is slight, professional judgment was used in qualification of the data. However, if the non-adherence is significant, qualification and rejection of the data may be necessary. A summary of qualified data is provided in Section 4.0.

2.0 SEMI-VOLATILE ORGANIC COMPOUNDS

Samples were collected from two (2) groundwater monitoring locations and analyzed for SVOCs. An AD sample was collected from one (1) sampling location, GM-31A. One (1) EB was also prepared and shipped for laboratory analysis. The samples were submitted to TestAmerica, placed into one (1) data package or SDG (KOM038), and were prepared and analyzed using SW-846 Method 8270D. Samples were validated in general accordance with the functional guidelines. Results of the validation are summarized below.

2.1 Receipt Condition and Sample Holding Times

The SDG Case Narrative, chain-of-custody, login sample receipt checklists, and analysis dates were reviewed to verify analytical method holding times and proper preservation upon sampling. Samples were received by TestAmerica in good condition.

2.2 Blanks

Laboratory and field blanks, including method blanks and equipment blanks, are prepared and analyzed to determine if contamination occurred as a result of laboratory or field activities.

Laboratory method blanks were performed for each laboratory system as outlined for each analytical method to evaluate whether cross contamination occurred during laboratory analysis activities. Results for the method blanks were non-detect.

One (1) EB was collected during the 3Q17 event, associated with sample GM-31A, to assess the effectiveness of the decontamination procedure. Results for the EB were non-detect.

2.3 Surrogate Spike Recoveries

Samples to be analyzed for SVOCs were spiked with surrogate compounds: 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, terphenyl-d14, and 2,4,6-tribromophenol, prior to analysis, to evaluate overall laboratory performance. Surrogate recoveries were within acceptance criteria; therefore, data qualification was not required.

2.4 Laboratory Control Sample Recoveries

A laboratory control sample (LCS) is analyzed on each laboratory system to evaluate the analytical method accuracy and laboratory performance. LCS recoveries were within acceptance criteria; therefore, data qualification was not required.

2.5 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to determine long term precision and accuracy of the analytical method on various matrices. One (1) MS/MSD pair is sampled for every twenty (20) field samples. One (1)

MS/MSD pair was collected during the 3Q17 event associated with sample GM-58A. Results were within accuracy and precision criteria.

2.6 Analytical Duplicates

One (1) AD is collected for every ten (10) field samples to determine the overall precision of field and laboratory methods. One (1) AD was collected during the 3Q17 event associated with sample GM-31A. The relative percent difference (RPD) between the sample GM-31A and the AD, GM-31A-AD, did not exceed 25%; therefore, data qualification was not required.

2.7 Internal Standard Responses

Internal standard performance criteria ensure that GC/MS sensitivity and response are stable during each analysis. Internal standard area counts did not vary by more than a factor of two (2) from the associated 12 hour calibration standard. Internal standard retention times did not vary more than +/-30 seconds from the retention time of the associated 12 hour calibration standard. Qualification of data was not required.

2.8 Results Reported From Dilutions

SVOC samples in the SDG did not require dilutions.

3.0 INORGANICS AND GENERAL CHEMISTRY

Samples were collected from two (2) groundwater monitoring locations and analyzed for inorganics and general chemistry. The samples were submitted to TestAmerica, placed into one (1) data package or SDG (KOM037), and were prepared and analyzed using the following methods:

- Total and Dissolved Iron and Manganese analyzed by USEPA Method 6010C Inductively Coupled Plasma-Atomic Emission Spectrometry
- Dissolved Gases analyzed by Method RSK-175
- Alkalinity and Free Carbon Dioxide analyzed by USEPA Method 310.1 by Titration
- Chloride analyzed by USEPA Method 325.2 by Automated Colorimetry
- Nitrogen, Nitrate analyzed by USEPA Method 353.2 by Automated Colorimetry
- Sulfate analyzed by USEPA Method 375.4 by Spectrophotometer
- Total and Dissolved Organic Carbon analyzed by USEPA Method 415.1

Samples were validated in general accordance with the functional guidelines. Results of the validation are summarized below.

3.1 Receipt Condition and Sample Holding Times

The SDG Case Narrative, chain-of-custody, login sample receipt checklists, and analysis dates were reviewed to verify analytical method holding times and proper preservation upon sampling. Samples were received by TestAmerica in good condition.

3.2 Blanks

Laboratory method blanks are prepared and analyzed to determine if contamination occurred as a result of laboratory activities.

Laboratory method blanks were performed for each laboratory system as outlined for each analytical method to evaluate whether cross contamination occurred during laboratory analysis activities. Results for the method blanks were non-detect.

3.3 Laboratory Control Sample Recoveries

A LCS is analyzed on each laboratory system to evaluate the analytical method accuracy and laboratory performance. LCS recoveries were within acceptance criteria; therefore, data qualification was not required.

3.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to determine long term precision and accuracy of the analytical method on various matrices. Although MS/MSD analysis was not required for inorganic and general chemistry per

the Work Plan, the laboratory spiked groundwater samples GM-31A and GM-58A for various analytes. Results were within accuracy and precision criteria.

3.5 Results Reported From Dilutions

Samples in the SDG required dilutions due to high levels of target analyte sulfate. Reporting limits were adjusted to reflect the dilution. Result qualifications are shown in Section 4.0.

4.0 SUMMARY

Golder validated the data collected during the 3Q17 sampling event from the Illinois Route 3 Drum Site in general accordance with the Work Plan and USEPA functional guidelines. Although some data required qualifications due to quality control criteria that were not achieved, the data were deemed usable. Where a positive result was qualified as estimated, the analyte should be considered present. Similarly, a result that was qualified as an estimated reporting limit should be considered not present for the purposes of this program, although the limit itself may not be precise. The completeness for the entire data set was 100%.

Qualification Summary Table

Quality Control Issue	Compound(s)	Qualifier	Samples Affected
Compounds analyzed at a dilution	Sulfate	D	GM-31A and GM-58A

5.0 REFERENCES

Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.

USEPA, 2010. Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review.

USEPA, 2008. Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review.

APPENDIX D
GROUNDWATER ANALYTICAL RESULTS
(INCLUDING DATA VALIDATION REPORT)

Level IV Data Validation Summary
Solutia Inc., W.G. Krummrich, Sauget, Illinois
3Q17 Route 3 Drum Site Monitoring Program

Company Name: Golder Associates
Project Name: WGK-3Q17 Drum Site
Reviewer: A. Derhake
Laboratory: TestAmerica
SDG#: KOM038
Matrix: Water

Project Manager: A. Derhake
Project Number: 140-3345
Sample Date: September 2017

Analytical Method: SVOC (8270D), Dissolved Gases (RSK-175), Metals (6010C), Alkalinity (310.1), Chloride (325.2), Nitrogen, Nitrate-Nitrite (353.2), Sulfate (375.4), TOC (415.1), and DOC (415.1)

Sample Names: GM-31A-0917, GM-31A-F(0.2)-0917, GM-31A-0917-AD, GM-31A-0917-EB, GM-58A-0917, GM-58A-F(0.2)-0917

Field Information	**YES**	**NO**	**NA**
a) Sampling dates noted?	☒	☐	☐
b) Does the laboratory narrative indicate deficiencies?	☒	☐	☐

Comments:

SVOC: No deficiencies noted.

Dissolved Gases: No deficiencies noted.

Metals: No deficiencies noted.

Alkalinity: No deficiencies noted.

Chloride: No deficiencies noted.

Nitrate-Nitrite as Nitrogen: No deficiencies noted.

Sulfate: Samples GM-31A and GM-58A required dilution prior to analysis, reporting limits were adjusted accordingly.

TOC: No deficiencies noted.

DOC: No deficiencies noted.

Chain-of-Custody (COC)	**YES**	**NO**	**NA**
a) Was the COC signed by both field and laboratory personnel?	☒	☐	☐
b) Were samples received in good condition?	☒	☐	☐

Comments: Samples were received at 2.6°C, and 3.0°C, within the 4°C ± 2°C criteria.

General	**YES**	**NO**	**NA**
a) Were hold times met for sample analysis?	☒	☐	☐
b) Were the correct preservatives used?	☒	☐	☐
c) Was the correct method used?	☒	☐	☐
d) Any sample dilutions noted?	☒	☐	☐

Comments: Detections in diluted analysis were qualified.

GC/MS Instrument Performance Check (IPC) and Internal Standards (IS)	**YES**	**NO**	**NA**
a) IPC analyzed at the appropriate frequency and met the appropriate standards?	☒	☐	☐
b) Does DFTPP meet the ion abundance criteria?	☒	☐	☐
c) Internal Standard retention times and areas met appropriate criteria?	☒	☐	☐

Comments: None

Calibrations	**YES**	**NO**	**NA**
a) Initial calibration analyzed at the appropriate frequency and met the appropriate standards?	☒	☐	☐
b) Continuing calibrations analyzed at the appropriate frequency and met the appropriate standards?	☒	☐	☐
c) Initial calibration verifications and blanks analyzed at the appropriate frequency and met the appropriate standards?	☒	☐	☐
d) Continuing calibration verifications and blanks analyzed at the appropriate frequency and met the appropriate standards?	☒	☐	☐

Comments: None

Blanks	**YES**	**NO**	**NA**
a) Were blanks (trip, equipment, method) performed at required frequency?	☒	☐	☐
b) Were analytes detected in any blanks?	☐	☒	☐

Comments: Equipment blank GM-31A-0917-EB was submitted with SDG KOM038

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	**YES**	**NO**	**NA**
a) Was MS/MSD accuracy criteria met?	☒	☐	☐
b) Was MS/MSD precision criteria met?	☒	☐	☐

Comments: None

Laboratory Control Sample (LCS)	**YES**	**NO**	**NA**
a) LCS analyzed at the appropriate frequency and met appropriate standards?	☒	☐	☐

Comments: None

Surrogate (System Monitoring) Compounds	**YES**	**NO**	**NA**
a) Surrogate compounds analyzed at the appropriate frequency and met appropriate standards?	☒	☐	☐

Comments: None

Duplicates	**YES**	**NO**	**NA**
a) Were field duplicates collected?	☒	☐	☐
b) Was field duplicate precision criteria met?	☒	☐	☐

Comments: Duplicate sample GM-31A-0917-AD was submitted with SDG KOM038.

Additional Comments: None

Qualifications:

Quality Control Issue	Compound(s)	Qualifier	Samples Affected
Compounds analyzed at a dilution	Sulfate	D	GM-31A-0917 and GM-58A-0917

SDG KOM038
Sample Results from:

GM-58A
GM-31A
GM-31A-AD
GM-31A-EB

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-84874-1
TestAmerica Sample Delivery Group: KOM038
Client Project/Site: 3Q17 Drum Site GW Sampling - 1403345

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

Attn: Mr. Jerry Rinaldi

Michele R Kersey

Authorized for release by:
9/25/2017 2:33:57 PM

Michele Kersey, Project Manager II
(912)354-7858
michele.kersey@testamericainc.com

SJD
10/11/17

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Qualifiers

GC/MS Semi VOA

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

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
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
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 240-84874-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: 3Q17 Drum Site GW Sampling - 1403345

Report Number: 240-84874-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 9/13/2017 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.6° C and 3.0° C.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)
Samples GM-31A-0917 (240-84874-1), GM-31A-0917-AD (240-84874-3), GM-31A-0917-EB (240-84874-4) and GM-58A-0917 (240-84874-5) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 09/18/2017 and analyzed on 09/20/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED GASES
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 09/21/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP) - DISSOLVED
Samples GM-31A-F(0-2)-0917 (240-84874-2) and GM-58A-F(0-2)-0917 (240-84874-6) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 09/14/2017 and analyzed on 09/16/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 09/14/2017 and analyzed on 09/16/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ALKALINITY
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 09/14/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORIDE
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for Chloride in accordance with EPA Method

Job ID: 240-84874-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

325.2. The samples were analyzed on 09/20/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITRATE-NITRITE AS NITROGEN
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 09/15/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SULFATE
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 09/16/2017.

Samples GM-31A-0917 (240-84874-1)[5X] and GM-58A-0917 (240-84874-5)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON
Samples GM-31A-0917 (240-84874-1) and GM-58A-0917 (240-84874-5) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 09/21/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED ORGANIC CARBON (DOC)
Samples GM-31A-F(0-2)-0917 (240-84874-2) and GM-58A-F(0-2)-0917 (240-84874-6) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 09/20/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL CAN
6010C	Metals (ICP)	SW846	TAL SAV
310.1-1978	Alkalinity	MCAWW	TAL SAV
325.2-1978	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL CAN
375.4-1978	Sulfate	MCAWW	TAL SAV
415.1-1974	TOC	MCAWW	TAL SAV
415.1-1974	DOC	MCAWW	TAL SAV

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 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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

TestAmerica Canton
SJD 10/11/17

Sample Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-84874-1	GM-31A-0917	Water	09/12/17 12:28	09/13/17 09:30
240-84874-2	GM-31A-F(0-2)-0917	Water	09/12/17 12:28	09/13/17 09:30
240-84874-3	GM-31A-0917-AD	Water	09/12/17 12:28	09/13/17 09:30
240-84874-4	GM-31A-0917-EB	Water	09/12/17 13:14	09/13/17 09:30
240-84874-5	GM-58A-0917	Water	09/12/17 10:44	09/13/17 09:30
240-84874-6	GM-58A-F(0-2)-0917	Water	09/12/17 10:44	09/13/17 09:30

TestAmerica Canton
SSD 10/11/17

Detection Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-31A-0917 — Lab Sample ID: 240-84874-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	15		9.6		ug/L	1		8270D	Total/NA
Methane	0.70		0.50		ug/L	1		RSK-175	Total/NA
Iron	0.22		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.88		0.010		mg/L	1		6010C	Total Recoverable
Chloride	18		1.0		mg/L	1		325.2-1978	Total/NA
Nitrate Nitrite as N	1.2		0.050		mg/L	1		353.2	Total/NA
Sulfate	53	D	25		mg/L	5		375.4-1978	Total/NA
Total Organic Carbon	3.3		1.0		mg/L	1		415.1-1974	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	430		5.0		mg/L	1		310.1-1978	Total/NA
Carbon Dioxide, Free	18		5.0		mg/L	1		310.1-1978	Total/NA

Client Sample ID: GM-31A-F(0-2)-0917 — Lab Sample ID: 240-84874-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese, Dissolved	0.83		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.7		1.0		mg/L	1		415.1-1974	Dissolved

Client Sample ID: GM-31A-0917-AD — Lab Sample ID: 240-84874-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4,6-Trichlorophenol	15		9.5		ug/L	1		8270D	Total/NA

Client Sample ID: GM-31A-0917-EB — Lab Sample ID: 240-84874-4

No Detections.

Client Sample ID: GM-58A-0917 — Lab Sample ID: 240-84874-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.30		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.75		0.010		mg/L	1		6010C	Total Recoverable
Chloride	25		1.0		mg/L	1		325.2-1978	Total/NA
Nitrate Nitrite as N	0.93		0.050		mg/L	1		353.2	Total/NA
Sulfate	71	D	25		mg/L	5		375.4-1978	Total/NA
Total Organic Carbon	3.4		1.0		mg/L	1		415.1-1974	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	440		5.0		mg/L	1		310.1-1978	Total/NA
Carbon Dioxide, Free	16		5.0		mg/L	1		310.1-1978	Total/NA

Client Sample ID: GM-58A-F(0-2)-0917 — Lab Sample ID: 240-84874-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese, Dissolved	0.77		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.7		1.0		mg/L	1		415.1-1974	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton
SJD 10/11/17

Client Sample ID: GM-31A-0917

Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
1-chloro-2,4-dinitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
1-Chloro-3-nitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
2-chloronitrobenzene / 4-chloronitrobenzene	19	U	19		ug/L		09/18/17 15:45	09/20/17 18:23	1
3,4-Dichloronitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
2,4-Dichlorophenol	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
Nitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
2-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
3-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
4-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1
Pentachlorophenol	48	U	48		ug/L		09/18/17 15:45	09/20/17 18:23	1
2,4,6-Trichlorophenol	15		9.6		ug/L		09/18/17 15:45	09/20/17 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*32 - 113*	*09/18/17 15:45*	*09/20/17 18:23*	*1*
2-Fluorophenol	*59*		*26 - 109*	*09/18/17 15:45*	*09/20/17 18:23*	*1*
Nitrobenzene-d5	*65*		*32 - 118*	*09/18/17 15:45*	*09/20/17 18:23*	*1*
Phenol-d5	*59*		*27 - 110*	*09/18/17 15:45*	*09/20/17 18:23*	*1*
Terphenyl-d14	*33*		*10 - 126*	*09/18/17 15:45*	*09/20/17 18:23*	*1*
2,4,6-Tribromophenol	*81*		*39 - 124*	*09/18/17 15:45*	*09/20/17 18:23*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.70		0.50		ug/L			09/21/17 14:52	1
Ethane	0.50	U	0.50		ug/L			09/21/17 14:52	1
Ethylene	0.50	U	0.50		ug/L			09/21/17 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*89*		*76 - 121*		*09/21/17 14:52*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.22		0.050		mg/L		09/14/17 13:00	09/16/17 03:50	1
Manganese	0.88		0.010		mg/L		09/14/17 13:00	09/16/17 03:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		1.0		mg/L			09/20/17 10:54	1
Nitrate Nitrite as N	1.2		0.050		mg/L			09/15/17 15:54	1
Sulfate	53	D	25		mg/L			09/16/17 15:26	5
Total Organic Carbon	3.3		1.0		mg/L			09/21/17 04:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	430		5.0		mg/L			09/14/17 21:04	1
Carbon Dioxide, Free	18		5.0		mg/L			09/14/17 21:04	1

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-31A-F(0-2)-0917
Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-2
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		09/14/17 13:44	09/16/17 05:29	1
Manganese, Dissolved	0.83		0.010		mg/L		09/14/17 13:44	09/16/17 05:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.7		1.0		mg/L			09/20/17 18:49	1

TestAmerica Canton
SSD 10/11/17

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-31A-0917-AD
Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-3
Matrix: Water

Method: 8270D - 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		09/18/17 15:45	09/20/17 18:47	1
1-chloro-2,4-dinitrobenzene	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
1-Chloro-3-nitrobenzene	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
2-chloronitrobenzene / 4-chloronitrobenzene	19	U	19		ug/L		09/18/17 15:45	09/20/17 18:47	1
3,4-Dichloronitrobenzene	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
2,4-Dichlorophenol	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
Nitrobenzene	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
2-Nitrobiphenyl	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
3-Nitrobiphenyl	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
4-Nitrobiphenyl	9.5	U	9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1
Pentachlorophenol	48	U	48		ug/L		09/18/17 15:45	09/20/17 18:47	1
2,4,6-Trichlorophenol	**15**		9.5		ug/L		09/18/17 15:45	09/20/17 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*32 - 113*	*09/18/17 15:45*	*09/20/17 18:47*	*1*
2-Fluorophenol	*57*		*26 - 109*	*09/18/17 15:45*	*09/20/17 18:47*	*1*
Nitrobenzene-d5	*65*		*32 - 118*	*09/18/17 15:45*	*09/20/17 18:47*	*1*
Phenol-d5	*60*		*27 - 110*	*09/18/17 15:45*	*09/20/17 18:47*	*1*
Terphenyl-d14	*31*		*10 - 126*	*09/18/17 15:45*	*09/20/17 18:47*	*1*
2,4,6-Tribromophenol	*79*		*39 - 124*	*09/18/17 15:45*	*09/20/17 18:47*	*1*

Client Sample ID: GM-31A-0917-EB

Date Collected: 09/12/17 13:14
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20		ug/L		09/18/17 15:45	09/20/17 19:11	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
2,4-Dichlorophenol	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
Nitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
2-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
3-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
4-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1
Pentachlorophenol	50	U	50		ug/L		09/18/17 15:45	09/20/17 19:11	1
2,4,6-Trichlorophenol	10	U	10		ug/L		09/18/17 15:45	09/20/17 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*32 - 113*	*09/18/17 15:45*	*09/20/17 19:11*	*1*
2-Fluorophenol	*58*		*26 - 109*	*09/18/17 15:45*	*09/20/17 19:11*	*1*
Nitrobenzene-d5	*64*		*32 - 118*	*09/18/17 15:45*	*09/20/17 19:11*	*1*
Phenol-d5	*61*		*27 - 110*	*09/18/17 15:45*	*09/20/17 19:11*	*1*
Terphenyl-d14	*88*		*10 - 126*	*09/18/17 15:45*	*09/20/17 19:11*	*1*
2,4,6-Tribromophenol	*79*		*39 - 124*	*09/18/17 15:45*	*09/20/17 19:11*	*1*

Client Sample ID: GM-58A-0917

Date Collected: 09/12/17 10:44
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
1-chloro-2,4-dinitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
1-Chloro-3-nitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
2-chloronitrobenzene / 4-chloronitrobenzene	19	U	19		ug/L		09/18/17 15:45	09/20/17 19:35	1
3,4-Dichloronitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
2,4-Dichlorophenol	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
Nitrobenzene	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
2-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
3-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
4-Nitrobiphenyl	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1
Pentachlorophenol	48	U	48		ug/L		09/18/17 15:45	09/20/17 19:35	1
2,4,6-Trichlorophenol	9.6	U	9.6		ug/L		09/18/17 15:45	09/20/17 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*32 - 113*	*09/18/17 15:45*	*09/20/17 19:35*	*1*
2-Fluorophenol	*54*		*26 - 109*	*09/18/17 15:45*	*09/20/17 19:35*	*1*
Nitrobenzene-d5	*58*		*32 - 118*	*09/18/17 15:45*	*09/20/17 19:35*	*1*
Phenol-d5	*54*		*27 - 110*	*09/18/17 15:45*	*09/20/17 19:35*	*1*
Terphenyl-d14	*28*		*10 - 126*	*09/18/17 15:45*	*09/20/17 19:35*	*1*
2,4,6-Tribromophenol	*74*		*39 - 124*	*09/18/17 15:45*	*09/20/17 19:35*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.50	U	0.50		ug/L			09/21/17 15:09	1
Ethane	0.50	U	0.50		ug/L			09/21/17 15:09	1
Ethylene	0.50	U	0.50		ug/L			09/21/17 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1-Trifluoroethane	*84*		*75 - 121*		*09/21/17 15:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30		0.050		mg/L		09/14/17 13:00	09/16/17 03:55	1
Manganese	0.75		0.010		mg/L		09/14/17 13:00	09/16/17 03:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25		1.0		mg/L			09/20/17 10:54	1
Nitrate Nitrite as N	0.93		0.050		mg/L			09/15/17 15:55	1
Sulfate	71	D	25		mg/L			09/16/17 14:36	5
Total Organic Carbon	3.4		1.0		mg/L			09/21/17 04:20	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	440		5.0		mg/L			09/14/17 19:40	1
Carbon Dioxide, Free	16		5.0		mg/L			09/14/17 19:40	1

Client Sample Results

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-58A-F(0-2)-0917
Date Collected: 09/12/17 10:44
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-6
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		09/14/17 13:44	09/16/17 05:34	1
Manganese, Dissolved	0.77		0.010		mg/L		09/14/17 13:44	09/16/17 05:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.7		1.0		mg/L			09/20/17 19:06	1

TestAmerica Canton
SSD 10/11/17

Surrogate Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPH	TBP
Lab Sample ID	Client Sample ID	(32-113)	(26-109)	(32-118)	(27-110)	(10-126)	(39-124)
240-84874-1	GM-31A-0917	73	59	65	59	33	81
240-84874-3	GM-31A-0917-AD	70	57	65	60	31	79
240-84874-4	GM-31A-0917-EB	70	58	64	61	88	79
240-84874-5	GM-58A-0917	68	54	58	54	28	74
240-84874-5 MS	GM-58A-0917	65	48	55	52	32	80
240-84874-5 MSD	GM-58A-0917	72	55	63	60	34	85
LCS 680-495028/6-A	Lab Control Sample	70	56	63	59	89	88
MB 680-495028/5-A	Method Blank	69	63	62	65	92	79

Surrogate Legend

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

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		Trifluoroet
Lab Sample ID	Client Sample ID	(76-121)
240-84874-1	GM-31A-0917	89
240-84874-5	GM-58A-0917	84
LCS 240-295693/5	Lab Control Sample	86
MB 240-295693/4	Method Blank	87

Surrogate Legend

1,1,1-Trifluoroethane = 1,1,1-Trifluoroethane

TestAmerica Canton
SJD 10/11/17

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

Lab Sample ID: MB 680-495028/5-A
Matrix: Water
Analysis Batch: 495314

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495028

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20		ug/L		09/18/17 15:45	09/20/17 17:59	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
2,4-Dichlorophenol	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
Nitrobenzene	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
2-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
3-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
4-Nitrobiphenyl	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1
Pentachlorophenol	50	U	50		ug/L		09/18/17 15:45	09/20/17 17:59	1
2,4,6-Trichlorophenol	10	U	10		ug/L		09/18/17 15:45	09/20/17 17:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*32 - 113*	*09/18/17 15:45*	*09/20/17 17:59*	*1*
2-Fluorophenol	*63*		*26 - 109*	*09/18/17 15:45*	*09/20/17 17:59*	*1*
Nitrobenzene-d5	*62*		*32 - 118*	*09/18/17 15:45*	*09/20/17 17:59*	*1*
Phenol-d5	*65*		*27 - 110*	*09/18/17 15:45*	*09/20/17 17:59*	*1*
Terphenyl-d14	*92*		*10 - 126*	*09/18/17 15:45*	*09/20/17 17:59*	*1*
2,4,6-Tribromophenol	*79*		*39 - 124*	*09/18/17 15:45*	*09/20/17 17:59*	*1*

Lab Sample ID: LCS 680-495028/6-A
Matrix: Water
Analysis Batch: 495314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	100	74.8		ug/L		75	45 - 130
1-chloro-2,4-dinitrobenzene	100	102		ug/L		102	51 - 130
1-Chloro-3-nitrobenzene	100	87.9		ug/L		88	31 - 130
2-chloronitrobenzene / 4-chloronitrobenzene	200	172		ug/L		86	34 - 130
3,4-Dichloronitrobenzene	100	95.1		ug/L		95	34 - 130
2,4-Dichlorophenol	100	76.5		ug/L		77	44 - 130
Nitrobenzene	100	88.8		ug/L		89	43 - 130
2-Nitrobiphenyl	100	91.6		ug/L		92	39 - 130
3-Nitrobiphenyl	100	90.7		ug/L		91	40 - 130
4-Nitrobiphenyl	100	94.1		ug/L		94	39 - 130
Pentachlorophenol	200	173		ug/L		87	33 - 130
2,4,6-Trichlorophenol	100	82.1		ug/L		82	47 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*32 - 113*
2-Fluorophenol	*56*		*26 - 109*
Nitrobenzene-d5	*63*		*32 - 118*
Phenol-d5	*59*		*27 - 110*
Terphenyl-d14	*89*		*10 - 126*
2,4,6-Tribromophenol	*68*		*39 - 124*

Lab Sample ID: 240-84874-5 MS
Matrix: Water
Analysis Batch: 495314

Client Sample ID: GM-58A-0917
Prep Type: Total/NA
Prep Batch: 495028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-chloro-2,4-dinitrobenzene	9.6	U	96.2	91.0		ug/L		95	51 - 130
1-Chloro-3-nitrobenzene	9.6	U	96.2	71.8		ug/L		75	31 - 130
2-chloronitrobenzene / 4-chloronitrobenzene	19	U	192	152		ug/L		79	34 - 130
3,4-Dichloronitrobenzene	9.6	U	96.2	79.2		ug/L		82	34 - 130
2-Nitrobiphenyl	9.6	U	96.2	87.3		ug/L		85	39 - 130
3-Nitrobiphenyl	9.6	U	96.2	84.6		ug/L		88	40 - 130
4-Nitrobiphenyl	9.6	U	96.2	90.7		ug/L		94	39 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*32 - 113*
2-Fluorophenol	*48*		*26 - 109*
Nitrobenzene-d5	*55*		*32 - 118*
Phenol-d5	*52*		*27 - 110*
Terphenyl-d14	*32*		*10 - 126*
2,4,6-Tribromophenol	*80*		*39 - 124*

Lab Sample ID: 240-84874-5 MSD
Matrix: Water
Analysis Batch: 495314

Client Sample ID: GM-58A-0917
Prep Type: Total/NA
Prep Batch: 495028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-chloro-2,4-dinitrobenzene	9.6	U	95.8	93.0		ug/L		97	51 - 130	2	50
1-Chloro-3-nitrobenzene	9.6	U	95.8	80.3		ug/L		84	31 - 130	11	50
2-chloronitrobenzene / 4-chloronitrobenzene	19	U	192	176		ug/L		92	34 - 130	15	50
3,4-Dichloronitrobenzene	9.6	U	95.8	88.1		ug/L		92	34 - 130	11	50
2-Nitrobiphenyl	9.6	U	95.8	84.7		ug/L		83	39 - 130	3	50
3-Nitrobiphenyl	9.6	U	95.8	85.5		ug/L		89	40 - 130	1	50
4-Nitrobiphenyl	9.6	U	95.8	89.0		ug/L		93	39 - 130	2	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*32 - 113*
2-Fluorophenol	*55*		*26 - 109*
Nitrobenzene-d5	*63*		*32 - 118*
Phenol-d5	*60*		*27 - 110*
Terphenyl-d14	*34*		*10 - 126*
2,4,6-Tribromophenol	*85*		*39 - 124*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 240-295693/4
Matrix: Water
Analysis Batch: 295693

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.50	U	0.50		ug/L			09/21/17 12:50	1
Ethane	0.50	U	0.50		ug/L			09/21/17 12:50	1
Ethylene	0.50	U	0.50		ug/L			09/21/17 12:50	1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 240-295693/4
Matrix: Water
Analysis Batch: 295693

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1-Trifluoroethane	87		76 - 121		09/21/17 12:50	1

Lab Sample ID: LCS 240-295693/5
Matrix: Water
Analysis Batch: 295693

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	199	206		ug/L		104	80 - 130
Ethane	374	405		ug/L		108	76 - 131
Ethylene	349	377		ug/L		108	79 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1-Trifluoroethane	86		76 - 121

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-494735/1-A
Matrix: Water
Analysis Batch: 495053

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 494735

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		09/14/17 12:59	09/16/17 02:49	1
Manganese	0.010	U	0.010		mg/L		09/14/17 12:59	09/16/17 02:49	1

Lab Sample ID: LCS 680-494735/2-A
Matrix: Water
Analysis Batch: 495053

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 494735

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.44		mg/L		109	80 - 120
Manganese	0.500	0.548		mg/L		110	80 - 120

Lab Sample ID: MB 680-494750/1-A
Matrix: Water
Analysis Batch: 495053

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 494750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		09/14/17 13:44	09/16/17 04:28	1
Manganese, Dissolved	0.010	U	0.010		mg/L		09/14/17 13:44	09/16/17 04:28	1

Lab Sample ID: LCS 680-494750/2-A
Matrix: Water
Analysis Batch: 495053

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 494750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron, Dissolved	5.00	5.44		mg/L		109	80 - 120
Manganese, Dissolved	0.500	0.546		mg/L		109	80 - 120

Method: 310.1-1978 - Alkalinity

Lab Sample ID: MB 680-494830/7
Matrix: Water
Analysis Batch: 494830

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			09/14/17 17:53	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			09/14/17 17:53	1

Lab Sample ID: LCS 680-494830/8
Matrix: Water
Analysis Batch: 494830

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	260		mg/L		104	80 - 120

Lab Sample ID: LCSD 680-494830/34
Matrix: Water
Analysis Batch: 494830

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	250	264		mg/L		106	80 - 120	1	30

Lab Sample ID: 240-84874-1 DU
Matrix: Water
Analysis Batch: 494830

Client Sample ID: GM-31A-0917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	430		413		mg/L		3	30
Carbon Dioxide, Free	18		16.3		mg/L		8	30

Method: 325.2-1978 - Chloride

Lab Sample ID: MB 680-495356/17
Matrix: Water
Analysis Batch: 495356

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			09/20/17 10:56	1

Lab Sample ID: LCS 680-495356/18
Matrix: Water
Analysis Batch: 495356

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.9		mg/L		108	85 - 115

Lab Sample ID: LCSD 680-495356/20
Matrix: Water
Analysis Batch: 495356

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
Chloride	25.0	26.9		mg/L		108	85 - 115	0	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 240-295072/4
Matrix: Water
Analysis Batch: 295072

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.050	U	0.050		mg/L			09/15/17 15:49	1

Lab Sample ID: LCS 240-295072/5
Matrix: Water
Analysis Batch: 295072

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.22	1.26		mg/L		103	90 - 110

Method: 375.4-1978 - Sulfate

Lab Sample ID: MB 680-495124/4
Matrix: Water
Analysis Batch: 495124

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			09/16/17 14:09	1

Lab Sample ID: LCS 680-495124/5
Matrix: Water
Analysis Batch: 495124

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	19.8		mg/L		99	75 - 125

Lab Sample ID: LCSD 680-495124/7
Matrix: Water
Analysis Batch: 495124

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
Sulfate	20.0	20.1		mg/L		100	75 - 125	1	30

Lab Sample ID: 240-84874-1 MS
Matrix: Water
Analysis Batch: 495124

Client Sample ID: GM-31A-0917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	53		20.0	77.3		mg/L		121	75 - 125

Lab Sample ID: 240-84874-1 MSD
Matrix: Water
Analysis Batch: 495124

Client Sample ID: GM-31A-0917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	53		20.0	77.0		mg/L		119	75 - 125	0	30

Method: 375.4-1978 - Sulfate (Continued)

Lab Sample ID: 240-84874-5 MS
Matrix: Water
Analysis Batch: 495124

Client Sample ID: GM-58A-0917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	71		20.0	91.5		mg/L		101	75 - 125

Lab Sample ID: 240-84874-5 MSD
Matrix: Water
Analysis Batch: 495124

Client Sample ID: GM-58A-0917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	71		20.0	91.9		mg/L		104	75 - 125	1	30

Method: 415.1-1974 - DOC

Lab Sample ID: MB 680-495462/2
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			09/20/17 08:10	1

Lab Sample ID: LCS 680-495462/4
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.0		mg/L		100	80 - 120

Lab Sample ID: LCSD 680-495462/5
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.8		mg/L		99	80 - 120	1	20

Method: 415.1-1974 - TOC

Lab Sample ID: MB 680-495460/2
Matrix: Water
Analysis Batch: 495460

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			09/20/17 20:13	1

Lab Sample ID: LCS 680-495460/3
Matrix: Water
Analysis Batch: 495460

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	20.8		mg/L		104	80 - 120

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Method: 415.1-1974 - TOC (Continued)

Lab Sample ID: LCSD 680-495460/4
Matrix: Water
Analysis Batch: 495460

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
Total Organic Carbon	20.0	21.0		mg/L		105	80 - 120	1	25

QC Association Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

GC/MS Semi VOA

Prep Batch: 495028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	3520C	
240-84874-3	GM-31A-0917-AD	Total/NA	Water	3520C	
240-84874-4	GM-31A-0917-EB	Total/NA	Water	3520C	
240-84874-5	GM-58A-0917	Total/NA	Water	3520C	
MB 680-495028/5-A	Method Blank	Total/NA	Water	3520C	
LCS 680-495028/6-A	Lab Control Sample	Total/NA	Water	3520C	
240-84874-5 MS	GM-58A-0917	Total/NA	Water	3520C	
240-84874-5 MSD	GM-58A-0917	Total/NA	Water	3520C	

Analysis Batch: 495314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	8270D	495028
240-84874-3	GM-31A-0917-AD	Total/NA	Water	8270D	495028
240-84874-4	GM-31A-0917-EB	Total/NA	Water	8270D	495028
240-84874-5	GM-58A-0917	Total/NA	Water	8270D	495028
MB 680-495028/5-A	Method Blank	Total/NA	Water	8270D	495028
LCS 680-495028/6-A	Lab Control Sample	Total/NA	Water	8270D	495028
240-84874-5 MS	GM-58A-0917	Total/NA	Water	8270D	495028
240-84874-5 MSD	GM-58A-0917	Total/NA	Water	8270D	495028

GC VOA

Analysis Batch: 295693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	RSK-175	
240-84874-5	GM-58A-0917	Total/NA	Water	RSK-175	
MB 240-295693/4	Method Blank	Total/NA	Water	RSK-175	
LCS 240-295693/5	Lab Control Sample	Total/NA	Water	RSK-175	

Metals

Prep Batch: 494735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total Recoverable	Water	3005A	
240-84874-5	GM-58A-0917	Total Recoverable	Water	3005A	
MB 680-494735/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-494735/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 494750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-2	GM-31A-F(0-2)-0917	Dissolved	Water	3005A	
240-84874-6	GM-58A-F(0-2)-0917	Dissolved	Water	3005A	
MB 680-494750/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-494750/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 495053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total Recoverable	Water	6010C	494735
240-84874-2	GM-31A-F(0-2)-0917	Dissolved	Water	6010C	494750
240-84874-5	GM-58A-0917	Total Recoverable	Water	6010C	494735

TestAmerica Canton
SSD 10/11/17

Metals (Continued)

Analysis Batch: 495053 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-8	GM-58A-F(0-2)-0917	Dissolved	Water	6010C	494750
MB 680-494735/1-A	Method Blank	Total Recoverable	Water	6010C	494735
MB 680-494750/1-A	Method Blank	Total Recoverable	Water	6010C	494750
LCS 680-494735/2-A	Lab Control Sample	Total Recoverable	Water	6010C	494735
LCS 680-494750/2-A	Lab Control Sample	Total Recoverable	Water	6010C	494750

General Chemistry

Analysis Batch: 295072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	353.2	
240-84874-5	GM-58A-0917	Total/NA	Water	353.2	
MB 240-295072/4	Method Blank	Total/NA	Water	353.2	
LCS 240-295072/5	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 494830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	310.1-1978	
240-84874-5	GM-58A-0917	Total/NA	Water	310.1-1978	
MB 680-494830/7	Method Blank	Total/NA	Water	310.1-1978	
LCS 680-494830/8	Lab Control Sample	Total/NA	Water	310.1-1978	
LCSD 680-494830/34	Lab Control Sample Dup	Total/NA	Water	310.1-1978	
240-84874-1 DU	GM-31A-0917	Total/NA	Water	310.1-1978	

Analysis Batch: 495124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	375.4-1978	
240-84874-5	GM-58A-0917	Total/NA	Water	375.4-1978	
MB 680-495124/4	Method Blank	Total/NA	Water	375.4-1978	
LCS 680-495124/5	Lab Control Sample	Total/NA	Water	375.4-1978	
LCSD 680-495124/7	Lab Control Sample Dup	Total/NA	Water	375.4-1978	
240-84874-1 MS	GM-31A-0917	Total/NA	Water	375.4-1978	
240-84874-1 MSD	GM-31A-0917	Total/NA	Water	375.4-1978	
240-84874-5 MS	GM-58A-0917	Total/NA	Water	375.4-1978	
240-84874-5 MSD	GM-58A-0917	Total/NA	Water	375.4-1978	

Analysis Batch: 495356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	325.2-1978	
240-84874-5	GM-58A-0917	Total/NA	Water	325.2-1978	
MB 680-495356/17	Method Blank	Total/NA	Water	325.2-1978	
LCS 680-495356/18	Lab Control Sample	Total/NA	Water	325.2-1978	
LCSD 680-495356/20	Lab Control Sample Dup	Total/NA	Water	325.2-1978	

Analysis Batch: 495460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-1	GM-31A-0917	Total/NA	Water	415.1-1974	
240-84874-5	GM-58A-0917	Total/NA	Water	415.1-1974	
MB 680-495460/2	Method Blank	Total/NA	Water	415.1-1974	
LCS 680-495460/3	Lab Control Sample	Total/NA	Water	415.1-1974	

General Chemistry (Continued)

Analysis Batch: 495460 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 680-495460/4	Lab Control Sample Dup	Total/NA	Water	415.1-1974	

Analysis Batch: 495462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84874-2	GM-31A-F(0-2)-0917	Dissolved	Water	415.1-1974	
240-84874-6	GM-58A-F(0-2)-0917	Dissolved	Water	415.1-1974	
MB 680-495462/2	Method Blank	Dissolved	Water	415.1-1974	
LCS 680-495462/4	Lab Control Sample	Dissolved	Water	415.1-1974	
LCSD 680-495462/5	Lab Control Sample Dup	Dissolved	Water	415.1-1974	

Lab Chronicle

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-31A-0917

Lab Sample ID: 240-84874-1
Matrix: Water

Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			495028	09/18/17 15:45	CEW	TAL SAV
Total/NA	Analysis	8270D		1	495314	09/20/17 18:23	KNW	TAL SAV
Total/NA	Analysis	RSK-175		1	295693	09/21/17 14:52	SEM	TAL CAN
Total Recoverable	Prep	3005A			494735	09/14/17 13:00	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	495053	09/16/17 03:50	BCB	TAL SAV
Total/NA	Analysis	310.1-1978		1	494830	09/14/17 21:04	JEC	TAL SAV
Total/NA	Analysis	325.2-1978		1	495356	09/20/17 10:54	ALG	TAL SAV
Total/NA	Analysis	353.2		1	295072	09/15/17 15:54	JWW	TAL CAN
Total/NA	Analysis	375.4-1978		5	495124	09/16/17 15:26	ALG	TAL SAV
Total/NA	Analysis	415.1-1974		1	495460	09/21/17 04:03	KLD	TAL SAV

Client Sample ID: GM-31A-F(0-2)-0917

Lab Sample ID: 240-84874-2
Matrix: Water

Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			494750	09/14/17 13:44	BJB	TAL SAV
Dissolved	Analysis	6010C		1	495053	09/16/17 05:29	BCB	TAL SAV
Dissolved	Analysis	415.1-1974		1	495462	09/20/17 18:49	KLD	TAL SAV

Client Sample ID: GM-31A-0917-AD

Lab Sample ID: 240-84874-3
Matrix: Water

Date Collected: 09/12/17 12:28
Date Received: 09/13/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			495028	09/18/17 15:45	CEW	TAL SAV
Total/NA	Analysis	8270D		1	495314	09/20/17 18:47	KNW	TAL SAV

Client Sample ID: GM-31A-0917-EB

Lab Sample ID: 240-84874-4
Matrix: Water

Date Collected: 09/12/17 13:14
Date Received: 09/13/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			495028	09/18/17 15:45	CEW	TAL SAV
Total/NA	Analysis	8270D		1	495314	09/20/17 19:11	KNW	TAL SAV

Client Sample ID: GM-58A-0917

Lab Sample ID: 240-84874-5
Matrix: Water

Date Collected: 09/12/17 10:44
Date Received: 09/13/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			495028	09/18/17 15:45	CEW	TAL SAV

Lab Chronicle

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Client Sample ID: GM-58A-0917

Date Collected: 09/12/17 10:44
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D		1	495314	09/20/17 19:35	KNW	TAL SAV
Total/NA	Analysis	RSK-175		1	295693	09/21/17 15:09	SEM	TAL CAN
Total Recoverable	Prep	3005A			494735	09/14/17 13:00	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	495053	09/16/17 03:55	BCB	TAL SAV
Total/NA	Analysis	310.1-1978		1	494830	09/14/17 19:40	JEC	TAL SAV
Total/NA	Analysis	325.2-1978		1	495356	09/20/17 10:54	ALG	TAL SAV
Total/NA	Analysis	353.2		1	295072	09/15/17 15:55	JWW	TAL CAN
Total/NA	Analysis	375.4-1978		5	495124	09/16/17 14:38	ALG	TAL SAV
Total/NA	Analysis	415.1-1974		1	495460	09/21/17 04:20	KLD	TAL SAV

Client Sample ID: GM-58A-F(0-2)-0917

Date Collected: 09/12/17 10:44
Date Received: 09/13/17 09:30

Lab Sample ID: 240-84874-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			494750	09/14/17 13:44	BJB	TAL SAV
Dissolved	Analysis	6010C		1	495053	09/16/17 05:34	BCB	TAL SAV
Dissolved	Analysis	415.1-1974		1	495462	09/20/17 19:06	KLD	TAL SAV

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Canton
SJD 10/11/17

Accreditation/Certification Summary

Client: Solutia Inc.
Project/Site: 3Q17 Drum Site GW Sampling - 1403345

TestAmerica Job ID: 240-84874-1
SDG: KOM038

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

Laboratory: TestAmerica Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200022	11-30-17

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	4-Nitrobiphenyl

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
310.1-1978		Water	Alkalinity
310.1-1978		Water	Carbon Dioxide, Free
325.2-1978		Water	Chloride
375.4-1978		Water	Sulfate
415.1-1974		Water	Dissolved Organic Carbon
415.1-1974		Water	Total Organic Carbon
8270D	3520C	Water	1,1'-Biphenyl
8270D	3520C	Water	1-chloro-2,4-dinitrobenzene
8270D	3520C	Water	1-Chloro-3-nitrobenzene
8270D	3520C	Water	2-chloronitrobenzene / 4-chloronitrobenzene
8270D	3520C	Water	2-Nitrobiphenyl
8270D	3520C	Water	3,4-Dichloronitrobenzene
8270D	3520C	Water	3-Nitrobiphenyl

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton
SJD 10/11/17

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
phone 912 354 7858 fax

2.6/C2.6
3.0/C3.0

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☑RCRA ☐Other:

Client Contact	Project Manager: Amanda Dorhake	Site Contact: Samantha DiCenso	Date: 9/12/17	COC No:
Golder Associates Inc	Tel/Fax: 636-724-9191	Lab Contact: Kathy Smith	Carrier: FedEx	1 of 1 COCs
820 South Main Street	Analysis Turnaround Time			Sampler:
St. Charles, MO 63301	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(636) 724-9191 Phone	TAT if different from Below			Walk-in Client:
(636) 724-9323 FAX	☑ 2 weeks			Lab Sampling:
Project Name: 3Q17 Drum Site GW Sampling-1403345	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			Job / SDG No.:
P O # 42262863	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	SVOCs by 8270	Total Fe/Mn by 6010C	Alk/CO3 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 6010C	DOC by 415.1	Sample Specific Notes:
GM-31A-0917	9/12/17	1228	G	W	12	N		2	1	1	1	3	1	3			
GM-31A-F(0.2)-0917		1228			4	Y									1	3	
GM-31A-0917-AD		1228			2	N		2									
GM-31A-0917-EB		1314			2	N		2									
GM-58A-0917		1044			12	N		2	1	1	1	3	1	3			
GM-58A-F(0.2)-0917		1044			4	Y									1	3	
GM-58A-0917-MS		1044			2	N		2									
GM-58A-0917-MSD		1044			2	N		2									
								1	4	1	1	2	3,1	3	4	3	

240-84874 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd _____ Corr'd _____ | Therm ID No. _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Samantha DiCenso	Golder	9/12/17 1700		TM	09/13/17 930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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SSD 10/11/17

TestAmerica Canton Sample Receipt Form/Narrative Login # : 548724
Canton Facility

Client Golder Site Name Sulfur

Cooler unpacked by: DD

Cooler Received on 09/13/17 Opened on 09/13/17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt — See Multiple Cooler Form

IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

IR GUN #36 (CF +0.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

IR GUN # 627 (CF -1.3°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No NA
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 11-15 have been checked at the originating laboratory.		
11. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC697954
12. Were VOAs on the COC?	Yes	No
13. Were air bubbles >6 mm in any VOA vials? ● Larger than this.	Yes	No NA
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
15. Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: TB

17. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

SSD 10/11/17

TestAmerica Multiple Cooler Receipt Form/Narrative
Canton Facility

Login # : 84874

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	8	2.6	2.6	Ice
〃	〃	3.0	3.0	〃

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
GM-31A-0917	240-84874-I-1	Plastic 250ml - with Sulfuric Acid	<2		
GM-31A-0917	240-84874-J-1	Plastic 250ml - with Nitric Acid	<2		
GM-31A-F(0-2)-0917	240-84874-D-2	Plastic 250ml - w/nitric - dis	<2		
GM-58A-0917	240-84874-I-5	Plastic 250ml - with Sulfuric Acid	<2		
GM-58A-0917	240-84874-J-5	Plastic 250ml - with Nitric Acid	<2		
GM-58A-F(0-2)-0917	240-84874-D-6	Plastic 250ml - w/nitric - dis	<2		

SSD 10/11/17

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kersey, Michele R	Carrier Tracking No(s):	COC No: 240-70706.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: michele.kersey@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 240-84874-1
Address: 5102 LaRoche Avenue,	Due Date Requested: 9/25/2017			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: WGK Long Term Monitoring (LTM)	Project #: 68001754			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	310.1/ Alkalinity & CO2, Free	325.2/ Chloride	375.4/ Sulfate	415.1	6010C/3005A Metals, Total (Partial)	8270D/3520C (MOD) TCL (same as TCL-SV-GV list)	6010C/FIELD_FLTRD Metals, Dissolved (Fe & Mn)	415.1_Diss/FIELD_FLTRD DOC (PP)	Total Number of containers	Special Instructions/Note:
			Preservation Code:													
GM-31A-0917 (240-84874-1)	9/12/17	12:28 Central		Water			X	X	X	X	X	X			8	
GM-31A-F(0-2)-0917 (240-84874-2)	9/12/17	12:28 Central		Water									X	X	4	
GM-31A-0917-AD (240-84874-3)	9/12/17	12:28 Central		Water								X			2	
GM-31A-0917-EB (240-84874-4)	9/12/17	13:14 Central		Water								X			2	
GM-58A-0917 (240-84874-5)	9/12/17	10:44 Central		Water			X	X	X	X	X	X			12	
GM-58A-0917 (240-84874-5MS)	9/12/17	10:44 Central	MS	Water								X			1	
GM-58A-0917 (240-84874-5MSD)	9/12/17	10:44 Central	MSD	Water								X			1	
GM-58A-F(0-2)-0917 (240-84874-6)	9/12/17	10:44 Central		Water									X	X	4	

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* *Months*

Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	9-13-17 1430	240	[signature]	9-14-17 935	[signature]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4/1.3

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55D 10/11/17

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 240-84874-1
SDG Number: KOM038

Login Number: 84874
List Number: 2
Creator: Flanagan, Naomi V

List Source: TestAmerica Savannah
List Creation: 09/14/17 11:06 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

SSD 10/11/17

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 240-84874-1
SDG Number: KOM038

Login Number: 84874
List Number: 3
Creator: Flanagan, Naomi V

List Source: TestAmerica Savannah
List Creation: 09/14/17 11:25 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

SJD 10/11/17

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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