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

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

gmrina@solutia.com

November 9, 2011

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

VIA FEDEX

Re: Supplemental Groundwater Monitoring Program
3rd Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the 3rd Quarter 2011 Data Report (the first such) for the Supplemental Groundwater Monitoring Program for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL. (The related Long-Term Monitoring Program report is being submitted separately.)

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

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Supplemental Groundwater Monitoring Program
3rd Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

USEPA

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

Booz Allen Hamilton

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

Solutia

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

3RD QUARTER 2011
DATA REPORT

SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM

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

Prepared for

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

November 2011

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project: **21562703.00002**

List of Figures

List of Tables

List of Appendices

1.0 INTRODUCTION

This report presents the results of the 3rd Quarter 2011 (3Q11) sampling event performed north of the Solutia Inc. (Solutia) W.G. Krummrich (WGK) Facility located in Sauget, Illinois (Site). This sampling event was conducted as an extension to, and in accordance with procedures outlined in, the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009). The scope of this Supplemental Groundwater Monitoring Program (SGMP) was outlined in Solutia correspondence to the United Stated Environmental Protection Agency Region 5 (USEPA) dated August 16, 2011, and a subsequent August 18, 2011 letter from USEPA. As presented in the latter document, the objective of this work is to collect monitoring and measurement data necessary to verify that the migration of contaminated groundwater from WGK is stable. The Site location is presented in **Figure 1**.

Groundwater Sampling Location and Frequency – Quarterly sampling of the SGMP wells commenced 3Q11, with an expected duration of four quarters, through 2Q12. For the 3Q11 groundwater sampling event, groundwater samples were collected from monitoring wells PS-MW-6D and PS-MW-10D, along with piezometers GWE-1D, GWE-2D, and GWE-3D, all located northwest of WGK in Sauget, Illinois. Monitoring well locations are presented in **Figure 2**.

Groundwater Sampling Parameters – During the 3Q11 groundwater sampling event, groundwater samples were analyzed for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene using USEPA Method 8260B.

Samples for analysis of Monitored Natural Attenuation (MNA) parameters were collected from five SGMP wells. Evaluation of the types of active natural attenuation processes at the site is based on the following key geochemical parameters:

- Electron Donors: Organic Carbon (Total and Dissolved)
- Electron Acceptors: Iron (Total and Dissolved)
Manganese (Total and Dissolved)
Nitrate
Sulfate
- Biodegradation Byproducts: Carbon Dioxide
Chloride
Methane
- Biodegradation Indicators: Alkalinity

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted 3Q11 sampling activities on August 30 and 31, 2011. Activities were completed in accordance with procedures outlined in the Revised LTMP Work Plan, including the collection of appropriate quality assurance and quality control (QA/QC) samples.

The following section summarizes field investigative procedures:

Groundwater Level Measurements – URS personnel used an electronic oil/water interface probe to measure depth to static groundwater levels and if present, the thickness of non-aqueous phase liquid (NAPL), if present, to 0.01 feet. As part of the LTMP, Depth to groundwater measurements were collected on August 11 and 12, 2011 from accessible existing WGK monitoring wells (i.e., BSA-, CPA-, GM-, K- , PS-MW- and PMA-series) and piezometer clusters (installed for the Sauget Area 2 RI/FS and WGK CA-750 Environmental Indicator projects) specified in the Revised LTMP Work Plan (Solutia 2009) (**Figure 3**). This group of wells and piezometers includes those that compose the SGMP. NAPL was not detected within any of the five SGMP monitoring wells.

Well gauging information for the 3Q11 event is presented in **Table 1**. As the middle and deep hydrogeologic units are the primary migration pathway for constituents present in groundwater at, and in the vicinity of, the WGK Facility, a groundwater potentiometric surface map based on water level data from wells screened in the Middle Hydrogeologic Unit (MHU) and Deep Hydrogeologic Unit (DHU) is presented as **Figure 3**.

Groundwater Sampling – Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 300 to 450 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

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

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

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

- Volatile Organic Compounds (VOCs)

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

Samples collected for ferrous iron, dissolved iron and dissolved manganese analysis were filtered in the field using in-line 0.2 micron disposable filters, represented by a notation of "F (0.2)" in the sample nomenclature.

Quality assurance/quality control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. In addition, trip blanks accompanied each shipment containing samples for VOC analysis.

Each investigative or QC sample was labeled immediately following collection. Each sample identification number consisted of the following nomenclature "Well ID-MW#-MMYY-QAC" where:

- **Well ID** includes "GWE-" or "PS-", followed by **MW-#D**, denoting DHU Monitoring Well Number
- **MMYY** – Month and year of sampling quarter, e.g.: Third quarter (August) 2011, 0811
- **QAC** denotes QA/QC sample
  - **AD** – analytical duplicate
  - **EB** – equipment blank
  - **MS** or **MSD** – Matrix Spike or Matrix Spike Duplicate

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4^{o}C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, preservative used (if applicable), analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of an overnight delivery service. Field sampling data sheets are included in **Appendix A**, while copies of COCs are included in **Appendix B**.

Field personnel and equipment were decontaminated according to procedures specified in the Revised LTMP Work Plan to ensure the health and safety of those present, maintain sample integrity, and minimize movement of contamination between the work area and off-site locations. Equipment used on-site was decontaminated prior to beginning work, between sampling locations and/or uses, and prior to demobilizing from the site. Non-disposable purging

and sampling equipment was decontaminated between each sample acquisition by washing with an Alconox® or equivalent detergent wash, a potable water rinse, and a distilled water rinse. Personnel and small equipment decontamination was performed at the sample locations. Disposable sampling equipment, such as gloves were collected and bagged on a daily basis and managed in accordance with Solutia procedures. Purge water was containerized and handled per Solutia procedures.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for VOCs and MNA parameters, using the following methodologies:

- VOCs, via USEPA SW-846 Method 8260B (dichlorobenzenes were quantitated using Method 8260B because of potential volatilization losses associated with Method 8270)
- MNA parameters: alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), dissolved gases (RSK 175), nitrate (353.2), sulfate (375.4), and total and dissolved organic carbon (415.1).

Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness, as described in the Revised Long Term Monitoring Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. The laboratory report along with data review and validation reports are included in **Appendix D.**

A total of 9 groundwater samples (five investigative samples, one field duplicate, one MS/MSD pair and one equipment blank) were prepared and analyzed by TestAmerica for combinations of VOCs, dissolved gases, metals, and general chemistry. In addition, two trip blanks were included in the coolers that contained samples for VOC analysis and were analyzed for VOCs. The results for the various analyses were submitted as sample delivery group (SDG) KPS066.

The samples contained in SDG KPS066 are listed below:

KPS066	
GWE-1D-0811	PS-MW-10D-0811
GWE-1D-0811-AD	PS-MW-10D-0811-EB
GWE-2D-0811	3Q11 SUPP Trip Blank #1
GWE-3D-0811	3Q11 SUPP Trip Blank #2
PS-MW-6D-0811	

Evaluation of the groundwater analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods

Data Review (USEPA 2008), USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004).

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

5.0 OBSERVATIONS

Groundwater analytical detections and MNA results for the 3Q11 SGMP sampling event are presented in **Tables 2** and **3,** respectively. Chlorobenzene was reported in samples collected from four of the five wells during this sampling event and 1,4-dichlorobenzene, was reported in samples collected from two of the five wells during this sampling event. Total chlorobenzenes (i.e., the sum of chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4, dichlorobenzene) were detected at concentrations ranging from 9.5 µg/L (GWE-2D) to 1,137 µg/L (PS-MW-6D). **Figure 4** displays concentrations of total chlorobenzenes from the 3Q11 sampling event. Benzene, 1,2-dichlorobenzene and 1,3-dichlorobenzene were not detected in samples collected from the five SGMP wells.

Though sample collection and analysis will be consistent with the 3Q11 sampling event, for subsequent groundwater sampling events (i.e. 4th Quarter 2011 (4Q11) through 2nd Quarter 2012 (2Q12)), groundwater samples will be collected piezometers GWE-1D, -2D, -3D and newly installed monitoring well GWE-5D, in accordance with the scope outlined for the SGMP.

6.0 REFERENCES

Solutia Inc, 2009. Revised Long Term Monitoring Program Work Plan, Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois, May 2009.

Solutia Inc, 2011. Supplemental Groundwater Monitoring Program, Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois, August 2011.

USEPA, 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

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

Figures

FALLING SPRINGS ROAD

STERLING STEEL

SITE H

SITE L

SITE M

SITE N

SITE I

DEAD CREEK

SITE G

CONTAINMENT CELL

CERRO COPPER

QUERRY AVENUE

W. G. KRUMMRICH FACILITY

ROUTE 3

AFTON CHEMICAL

MONSANTO AVENUE

BIG RIVER ZINC

ROUTE 3

MIDWEST RUBBER

CENTER ETHANOL COMPANY, LLC

LOT F

SITE O

PHILLIPS PETROLEUM

SITE P

UNION ELECTRIC

PCHEM POTW

AMERICAN BOTTOMS POTW

CLAYTON CHEMICAL

SITE S

VEOLIA INCINERATION

KINDER MORGAN

SITE R

SITE Q

GROUNDWATER PUMPING WELLS

BARRIER WALL

MISSISSIPPI RIVER

LEGEND

- W.G. KRUMMRICH FACILITY
- SAUGET AREA #1
- SAUGET AREA #2

Ø 1000

SCALE FEET

SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM
3RD QUARTER 2011 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

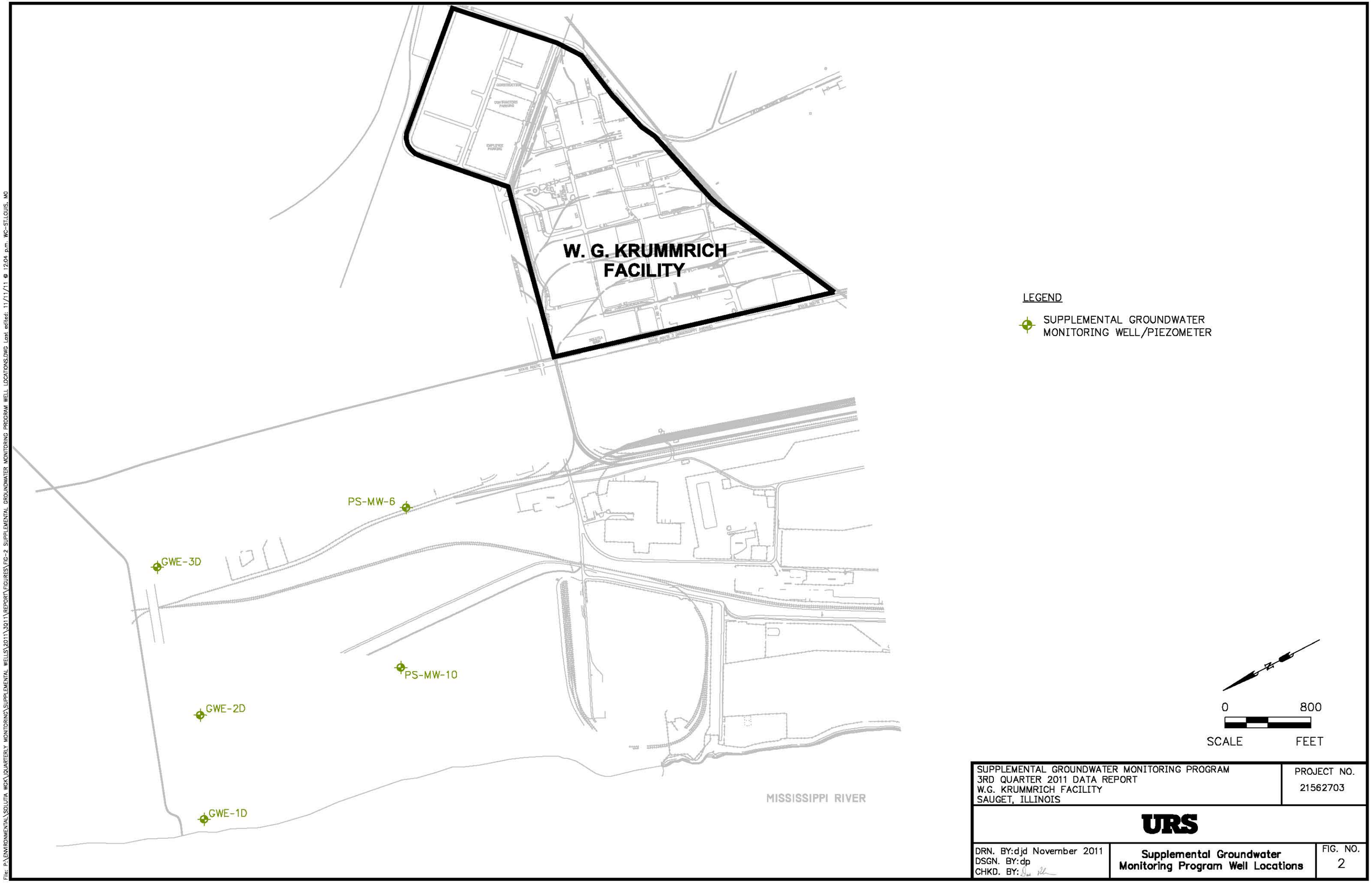
PROJECT NO. 21562703

URS

DRN. BY:chs November 2011
DSGN. BY:dp
CHKD. BY:

Site Location Map

FIG. NO. 1

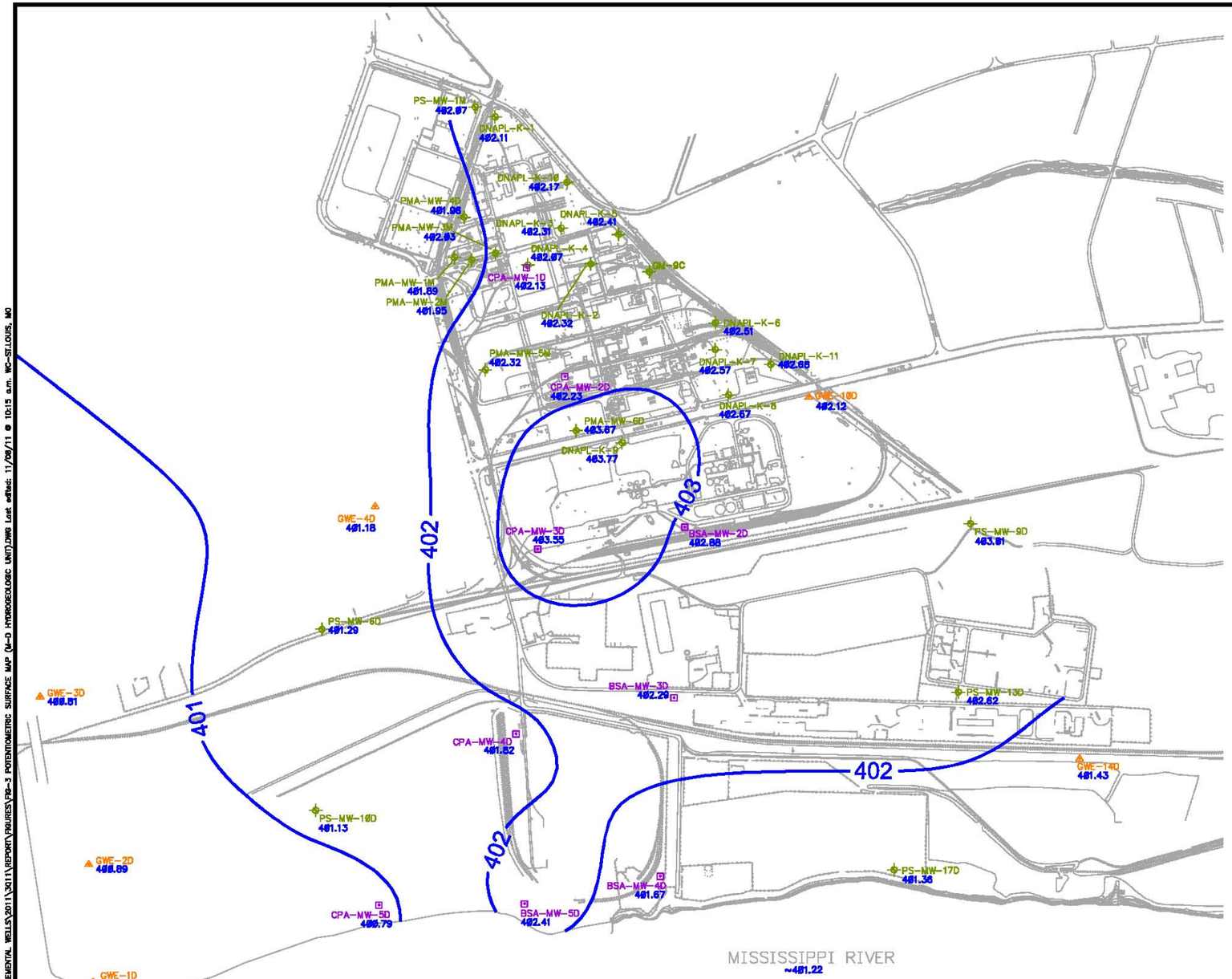


SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM 3RD QUARTER 2011 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562703

URS

DRN. BY:djd November 2011 DSGN. BY:dp CHKD. BY:	**Supplemental Groundwater Monitoring Program Well Locations**	FIG. NO. 2

File: P:\ENVIRONMENTAL\SOLUTIA WGK\QUARTERLY MONITORING\SUPPLEMENTAL WELLS\2011\3Q11\REPORT\FIGURES\FG-2 SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM WELL LOCATIONS.DWG Last edited: 11/11/11 @ 12:04 p.m. WC-ST.LOUIS, MO



LEGEND

- LONG-TERM MONITORING WELL USED FOR GROUNDWATER CONTOURING
- OTHER MONITORING WELL USED FOR GROUNDWATER CONTOURING
- PIEZOMETER CLUSTER USED FOR GROUNDWATER CONTOURING
- —402— GROUNDWATER ELEVATION CONTOUR (FT NAVD)

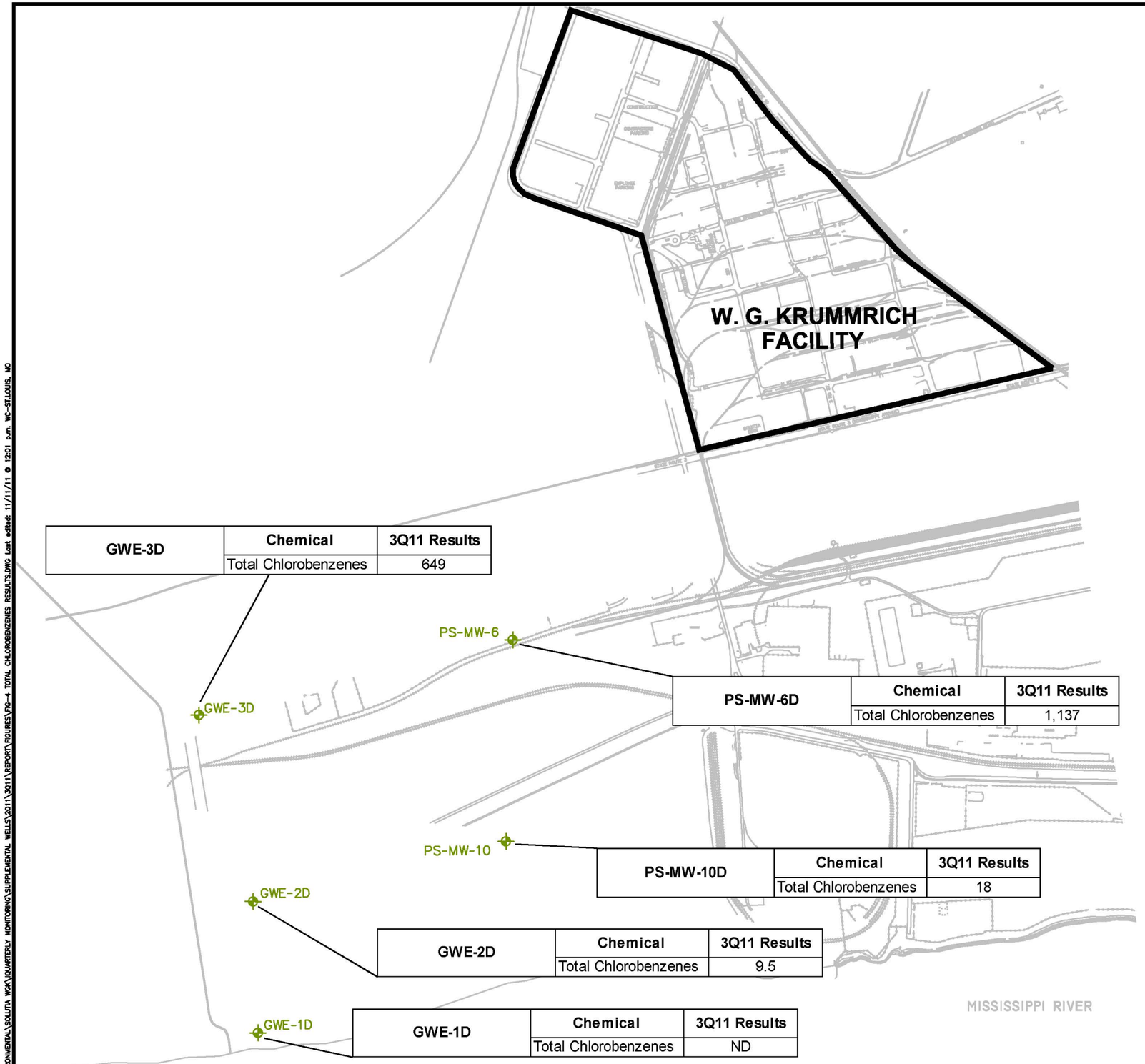
NOTES:

1. GROUNDWATER LEVELS WERE MEASURED AUGUST 11 & 12, 2Ø11.
2. CONTOURS GENERATED PRIMARILY USING SURFER SOFTWARE VERSION 8. SOME INTERPRETATION WAS DONE USING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. THE MISSISSIPPI RIVER STAGE ELEVATION PRESENTED ON THE FIGURE IS AN AVERAGE ELEVATION FOR THE TIME OF THE GAUGING EVENT. THE INFORMATION WAS OBTAINED FROM THE SITE R BUBBLER.
4. LOCATIONS WITH WELLS SCREENED IN BOTH THE MHU AND DHU UTILIZED THE DHU WELL FOR DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP.

Ø 1ØØØ
SCALE FEET

SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM 3RD QUARTER 2Ø11 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562ØØ3
URS	
DRN. BY:chs November 2Ø11 DSGN. BY:dp CHKD. BY:	Potentiometric Surface Map Middle/Deep Hydrogeologic Unit
	FIG. NO. 3

File: P:\ENVIRONMENTAL\SAUGET# WORK\QUARTERLY MONITORING\SUPPLEMENTAL WELLS\2011\3Q11\REPORT\FIGURES\FIG-3 POTENTIOMETRIC SURFACE MAP (MHU-DHU HYDROGEOLOGIC UNIT).DWG Last edited: 11/09/11 @ 10:15 a.m. MC-ST.LOUIS, MO



GWE-3D	Chemical	3Q11 Results
	Total Chlorobenzenes	649

PS-MW-6D	Chemical	3Q11 Results
	Total Chlorobenzenes	1,137

PS-MW-10D	Chemical	3Q11 Results
	Total Chlorobenzenes	18

GWE-2D	Chemical	3Q11 Results
	Total Chlorobenzenes	9.5

GWE-1D	Chemical	3Q11 Results
	Total Chlorobenzenes	ND

LEGEND

GWE-2D — SUPPLEMENTAL GROUNDWATER MONITORING WELL/PIEZOMETER

NOTES:

1. TOTAL CHLOROBENZENES RESULTS INCLUDE THE SUM OF MONOCHLOROBENZENE, 1,2-DICHLOROBENZENE, 1,3-DICHLOROBENZENE, AND 1,4-DICHLOROBENZENE.
2. RESULTS SHOWN ARE IN ug/L.
3. ND DENOTES ANALYTE OR ANALYTES NOT DETECTED.

0 800
SCALE FEET

SUPPLEMENTAL GROUNDWATER MONITORING PROGRAM 3RD QUARTER 2011 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562703
URS	
DRN. BY:djd November 2011 DSGN. BY:dp CHKD. BY:	Total Chlorobenzenes Results — FIG. NO. 4

Tables

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID			Construction Details						August 11-12, 2011		
	Northing	Easting	Ground Elevation (feet)	Casing Elevation (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation (feet)	Bottom of Screen Elevation (feet)	Depth to Water (feet btoc)	NAPL Thickness (feet)	Water Elevation (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)											
BSA-MW-1S	702077.000	2294393.200	409.49	412.31	19.68	24.68	389.81	384.81	9.72	--	402.59
GWE-1S	708917.243	2292547.419	413.83	416.54	13	23	403.54	393.54	12.78	--	403.76
GWE-2S	708489.510	2293419.566	417.45	417.10	17	27	400.10	390.10	16.04	--	401.06
GWE-3S	708190.663	2294821.811	415.03	417.01	25	35	392.01	382.01	16.92	--	400.09
GWE-4S	705014.086	2294892.173	406.16	405.75	20	30	385.75	375.75	5.54	--	400.21
PMA-MW-1S	703478.700	2296389.400	410.30	410.06	20.18	25.18	390.12	385.12	7.75	--	402.31
PMA-MW-2S	703363.700	2296305.800	412.27	411.66	22.94	27.94	389.33	384.33	9.74	--	401.92
PMA-MW-3S	703165.200	2296261.000	412.37	412.06	22.71	27.71	389.66	384.66	10.01	--	402.05
PMA-MW-4S	703252.900	2296642.300	411.09	410.43	20.99	25.99	390.10	385.10	8.85	0.11	401.58
SA2-MW-1S	705296.162	2293339.110	403.43	406.01	13.55	23.55	392.46	382.46	11.60	--	394.41
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)											
GWE-1M	708917.243	2292547.419	413.83	416.26	69.40	79.40	346.86	336.86	NM	--	NM
GWE-2M	708489.593	2293419.380	417.82	417.57	67.80	77.80	349.77	339.77	16.38	--	401.19
GWE-3M	708190.663	2294821.811	415.03	417.84	68.30	78.30	349.54	339.54	16.81	--	401.03
GWE-4M	705019.113	2294893.322	406.11	405.86	43.76	49.76	362.10	356.10	4.53	--	401.33
PMA-MW-1M	703480.400	2296384.600	410.32	410.08	54.54	59.54	355.78	350.78	8.19	--	401.89
PMA-MW-2M	703369.400	2296306.200	412.26	411.93	56.87	61.87	355.39	350.39	9.98	--	401.95
PMA-MW-3M	703161.200	2296259.500	412.36	412.10	57.07	62.07	355.29	350.29	10.07	--	402.03
PMA-MW-5M	703692.400	2295455.200	411.27	410.97	52.17	57.17	359.10	354.10	8.65	--	402.32
PS-MW-1M	702746.100	2297398.200	409.37	412.59	37.78	42.78	371.59	366.59	10.52	--	402.07
SA2-MW-1M	705301.561	2293339.773	403.55	406.13	53.26	63.26	352.87	342.87	12.06	--	394.07
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)											
BSA-MW-2D	702857.300	2293542.900	412.00	415.13	68.92	73.92	343.08	338.08	12.25	--	402.88
BSA-MW-3D	703598.900	2292346.700	412.91	415.74	107.02	112.02	305.89	300.89	13.45	--	402.29
BSA-MW-4D	704395.700	2291107.100	425.00	424.69	118.54	123.54	306.46	301.46	23.02	--	401.67
BSA-MW-5D	705432.969	2291536.060	420.80	420.49	115.85	120.85	304.95	299.95	18.08	--	402.41
CPA-MW-1D	702995.300	2296036.400	408.62	408.32	66.12	71.12	342.50	337.50	6.19	--	402.13
CPA-MW-2D	703140.800	2295097.700	408.51	408.20	99.96	104.96	308.55	303.55	5.97	--	402.23
CPA-MW-3D	704011.185	2293955.106	410.87	410.67	108.20	113.20	302.67	297.67	7.12	--	403.55
CPA-MW-4D	704884.000	2292700.900	421.57	421.20	116.44	121.44	305.13	300.13	19.38	--	401.82
CPA-MW-5D	706543.600	2291992.000	411.03	413.15	107.63	112.63	303.40	298.40	12.36	--	400.79
DNAPL-K-1	702637.276	2297248.692	413.07	415.56	108.20	123.20	304.87	289.87	13.45	--	402.11
DNAPL-K-2	702516.436	2295812.713	407.94	407.72	97.63	112.63	310.31	295.31	5.40	--	402.32

Table 1
Monitoring Well Gauging Information

Well ID			Construction Details						August 11-12, 2011		
	Northing	Easting	Ground Elevation (feet)	Casing Elevation (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation (feet)	Bottom of Screen Elevation (feet)	Depth to Water (feet btoc)	NAPL Thickness (feet)	Water Elevation (feet)
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock) (continued)											
DNAPL-K-3	702591.747	2296185.854	412.13	411.91	104.80	119.80	307.33	292.33	9.60	--	402.31
DNAPL-K-4	702975.946	2296048.688	409.48	409.15	102.55	117.55	306.93	291.93	7.08	--	402.07
DNAPL-K-5	702200.888	2295917.619	412.27	411.91	102.15	117.15	310.12	295.12	9.50	--	402.41
DNAPL-K-6	701842.363	2294900.821	410.43	410.09	102.47	117.47	307.96	292.96	7.58	--	402.51
DNAPL-K-7	701947.284	2294707.896	408.32	407.72	100.40	115.40	307.92	292.92	5.15	--	402.57
DNAPL-K-8	702026.795	2294328.368	408.56	411.38	102.65	117.65	305.91	290.91	8.71	--	402.67
DNAPL-K-9	702986.659	2294396.229	406.45	405.97	97.42	112.42	309.03	294.03	2.20	--	403.77
DNAPL-K-10	702372.180	2296495.020	413.50	413.25	105.43	120.43	308.07	293.07	11.08	--	402.17
DNAPL-K-11	701602.110	2294384.230	412.20	411.78	105.46	120.46	306.74	291.74	9.10	--	402.68
GM-9C	702123.000	2295527.000	409.54	411.21	88.00	108.00	321.54	301.54	16.50	--	394.71
GWE-1D	708917.2434	2292547.4187	412.80	415.60	117.00	127.00	295.80	285.80	15.45	--	400.15
GWE-2D	708489.7996	2293419.3725	417.45	417.14	127.00	137.00	290.45	280.45	16.25	--	400.89
GWE-3D	708190.663	2294821.811	415.03	417.66	104.60	114.60	313.06	303.06	16.85	--	400.81
GWE-4D	705022.782	2294894.495	406.05	405.74	74.00	80.00	332.05	326.05	4.56	--	401.18
GWE-10D	701453.118	2293997.843	410.15	412.87	102.50	112.50	307.65	297.65	10.75	--	402.12
GWE-14D	700852.103	2290273.514	420.47	422.90	90.00	96.00	330.47	324.47	21.47	--	401.43
PMA-MW-4D	703248.900	2296639.200	411.22	410.88	68.84	73.84	342.38	337.38	8.92	--	401.96
PMA-MW-6D	703270.300	2294662.400	407.63	407.32	96.49	101.49	311.14	306.14	3.65	--	403.67
PS-MW-6	705885.100	2294213.500	404.11	406.63	102.32	107.32	304.31	299.31	5.34	--	401.29
PS-MW-9D	700773.800	2292454.500	403.92	403.52	100.40	105.40	303.52	298.52	0.51	--	403.01
PS-MW-10	706634.200	2292926.700	409.63	412.18	103.78	108.78	308.40	303.40	11.05	--	401.13
PS-MW-13D	701516.900	2291281.000	405.80	405.53	106.08	111.08	299.72	294.72	2.91	--	402.62
PS-MW-17D	702674.300	2290245.400	420.22	423.26	121.25	126.25	298.97	293.97	21.90	--	401.36
SA2-MW-1D	705306.772	2293340.413	403.79	406.03	105.01	115.01	301.02	291.02	12.25	--	393.78

* - Elevation based upon North American Vertical Datum (NAVD) 88 datum
bgs - below ground surface
btoc - Below top of casing

Table 2
Groundwater Analytical Results

Sample ID	Sample Date	VOC (µg/L)				
		Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene
GWE-1D-0811	8/31/2011	<1	<1	<1	<1	<1
GWE-1D-0811-AD	8/31/2011	<1	<1	<1	<1	<1
GWE-2D-0811	8/31/2011	<1	**9.5**	<1	<1	<1
GWE-3D-0811	8/31/2011	<10	**630**	<10	<10	**19**
PS-MW-6D-0811	8/31/2011	<10	**1,100**	<10	<10	**37**
PS-MW-10D-0811	8/30/2011	<1	**18**	<1	<1	<1

Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given.
BOLD indicates concentration greater than reporting limit.
AD = Analytical Duplicate

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethylene (ug/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (ug/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
GWE-1D-0811	8/31/2011	410	25	69	0.22	<1.1	<1		16 B		0.46		9.1	<0.05	260		3.1	-167.0
GWE-1D-F(0.2)-0811	8/31/2011							>3		15 B		0.44				3		
GWE-2D-0811	8/31/2011	460	35	160	0.27	<1.1	<1		15 B		0.37		4.3	<0.05	300		3.1	-148.2
GWE-2D-F(0.2)-0811	8/31/2011							>3		15 B		0.38				3.1		
GWE-3D-0811	8/31/2011	480	35	60	0.24	<1.1	<1		14 B		0.42		8.9	<0.05	150		3	-152.7
GWE-3D-F(0.2)-0811	8/31/2011							>3		14 B		0.41				3		
PS-MW-6D-0811	8/31/2011	500	99	230	0.59	3.3	<1		14 B		5.4		80	<0.05	480		4.4	-68.3
PS-MW-6D-F(0.2)-0811	8/31/2011							1.56		14 B		5.4				4.6		
PS-MW-10D-0811	8/30/2011	310	150	200	0.01	1.7	<1		150		3.9		26	<0.05	2,300		3.5	163.0
PS-MW-10D-F(0.2)-0811	8/30/2011							>3		150		4				3.4		

Notes:
DO and ORP were measured in the field using YSI 6920 equipped with a flow-thru cell. Values presented represent final measurements before sampling
Ferrous Iron readings were measured in the field using a colorimeter after the groundwater passed through a 0.2 µm filter
F(0.2) = Sample was filtered utilizing a 0.2 µm filter during sample collection
B = Compound was found in the blank and sample
mg/L = milligrams per liter
mV = millivolts
ug/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given
A blank space indicates sample not analyzed for select analyte

Appendix A

Groundwater Purging and Sampling Forms

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK 3Q Supp. GW PROJECT NUMBER: 21562682.00010 FIELD PERSONNEL: Mike Corbett, Nathan McNurlen
DATE: 8/31/11 WEATHER: Sunny, 80s
MONITORING WELL ID: GWE-1D (PIEZ-1D) Sample ID: ~~PSHWMC~~ GWE-2D-0811, GWE-1D-F(0.2)-0811

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (btoc): 128.43 ft
Depth to Water (btoc): 19.40 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 117 ft
Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 109.03 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 122 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell: 600 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1,800 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Peristaltic Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1110	19.40	gray	organics	6.79	17.21	1.301	110.3	0.65	-156.7
1600	1114		lt gray	none	6.75	17.03	1.406	79.1	0.36	-163.8
3200	1118		colorless		6.70	16.92	1.458	30.1	0.28	-167.2
4800	1122				6.70	16.94	1.474	20.2	0.24	-169.2
6400	1126				6.67	17.65	1.479	16.6	0.23	-168.3
8000	1130				6.69	18.25	1.491	15.6	0.22	-168.8
9600	1134	↓	↓	↓	6.67	18.41	1.497	14.2	0.22	-167.0

Start Time: 1110
Stop Time: 1134
Elapsed Time: 24 min.
Average Purge Rate (mL/min): 400
Water Quality Meter ID: U64095X
Date Calibrated: 8/31/11

SAMPLING DATA

Sample Date: 8/31/11
Sample Method: Low-flow
VOA Vials, No Headspace ☒ Initials: MC
Sample Time: 1140
Sample Flow Rate: 400 mL/min
Analysis: VOCs, MNA parameters
QAQC Samples: Analytical Duplicate — GWE-1D-0811-AD

COMMENTS:
Ferrous Iron: overrange (>3ppm)

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK 3Q Supp. GW PROJECT NUMBER: 21562682.00010 FIELD PERSONNEL: Mike Corbett, Nathan McNurlen
DATE: 8/31/11 WEATHER: Sunny, 80s
MONITORING WELL ID: GWE-2D (PIEZ-2D) Sample ID: GWE-2D-0811

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (btoc): 136.52 ft
Depth to Water (btoc): 19.80 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 127 ft
Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 116.72 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 132 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = ft btoc

Volume of Flow Through Cell): 600 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1,800 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Peristaltic Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1316	19.80	colorless	odorless	7.20	19.36	2.003	25.1	1.24	-144.0
1200	1319				6.71	18.30	1.979	22.8	0.58	-145.2
2400	1322				6.61	18.00	1.968	21.2	0.39	-146.3
3600	1325				6.56	17.64	1.969	19.0	0.31	-146.4
4800	1328				6.56	17.75	1.957	18.2	0.28	-147.5
6000	1331	↓	↓	↓	6.55	17.79	1.951	15.4	0.27	-148.2

Start Time: 1316
Stop Time: 1331
Elapsed Time: 15 min.
Average Purge Rate (mL/min): 400
Water Quality Meter ID: U64095X
Date Calibrated: 8/31/11

SAMPLING DATA

Sample Date: 8/31/11
Sample Method: Low Flow
VOA Vials, No Headspace ☒ Initials: MC
Sample Time: 1340
Sample Flow Rate: 400 mL/min
Analysis: VOCs, MNA parameters
QAQC Samples: none

COMMENTS:
Ferrous Iron: overrange (>0.3)

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK 3Q Supp. GW PROJECT NUMBER: 21562682.00010 FIELD PERSONNEL: Mike Corbett, Nathan McNurlen
DATE: 8/31/11 WEATHER: sunny, 90s
MONITORING WELL ID: GWE-3D (PIEZ-3D) Sample ID: GWG-3D-0811

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (btoc): 114.83 ft
Depth to Water (btoc): 19.25 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 105 ft
Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 95.58 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 110 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 600 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1,800 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: _____

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1420	19.25	colorless	odorless	6.86	17.40	1.317	9.2	0.68	-138.6
1800	1424				6.61	17.14	1.354	9.8	0.38	-147.7
3600	1428				6.54	16.95	1.356	10.7	0.28	-151.2
5400	1432				6.53	17.00	1.360	8.8	0.27	-151.7
7200	1436				6.53	16.95	1.358	9.1	0.24	-158.7

Start Time: 1420
Stop Time: 1436
Elapsed Time: 16 min
Average Purge Rate (mL/min): 450
Water Quality Meter ID: U64095X
Date Calibrated: 8/31/11

SAMPLING DATA

Sample Date: 8/31/11
Sample Method: Low Flow
VOA Vials, No Headspace ☒ Initials: MC
Sample Time: 1440
Sample Flow Rate: 450 mL/min
Analysis: VOCs, MNA parameters
QAQC Samples: none

COMMENTS:
Ferrous Iron: overrange (>3ppm)

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK 3Q Supp. GW PROJECT NUMBER: 21562682.00010 FIELD PERSONNEL: Mike Corbett, Nathan McNurlen
DATE: 8/31/11 WEATHER: Sunny, 80s
MONITORING WELL ID: PSMW-6D Sample ID: PSMW6D-0811, PSMW6D-F(0.2)-0811

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 109.70 ft
Depth to Water (btoc): 7.47 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 104.70 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 102.23 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 107.20 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 600 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1,800 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	0935	7.52	lt. brown	odorless	6.10	18.35	2.436	>20.5	2.04	-48.1
2400	0943	7.52	colorless	odorless	6.14	18.56	2.446	65.5	1.29	-61.0
3600	0947	↓	↓	↓	6.14	18.50	2.455	34.4	1.17	-62.5
4800	0951				6.15	18.37	2.460	20.7	1.06	-63.7
6000	0955				6.15	18.00	2.461	16.2	0.99	-64.4
7200	0959				6.15	17.94	2.466	16.4	0.88	-64.8
8400	1003				6.15	17.92	2.465	11.2	0.77	-65.5
9600	1007				6.15	18.02	2.468	7.2	0.65	-67.0
10800	1011				6.14	17.85	2.471	7.1	0.68	-67.2
12000	1015	↓	↓	↓	6.15	17.87	2.472	6.4	0.59	-68.3

Start Time: 0935
Stop Time: 1015
Elapsed Time: 40 min.
Average Purge Rate (mL/min): 300
Water Quality Meter ID: U64095X
Date Calibrated: 8/31/11

SAMPLING DATA

Sample Date: 8/31/11
Sample Method: Low Flow
VOA Vials, No Headspace [X] Initials: MC
Sample Time: 1020
Sample Flow Rate: 300 mL/min.
Analysis: VOCs, MNA parameters
QAQC Samples: ~~Analytical duplicate~~ MS/MSD
~~PSMW6D-0811-AD~~
PSMW6D-0811-MS, PSMW6D-0811-MSD

COMMENTS:
Ferrous Iron: 1.56 ppm

LOW FLOW GROUNDWA. . SAMPLING DATA SHEET

PROJECT NAME: WGK 3Q Supp. GW PROJECT NUMBER: 21562682.00010 FIELD PERSONNEL: Mike Corbett, Nathan McNurlen
DATE: 8/30/11 WEATHER: Sunny, 80s
MONITORING WELL ID: PSMW-10D Sample ID: PSMW10D-0811, PSMW10D-F(0.2)-0811

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 111.15 ft
Depth to Water (btoc): 13.71 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 106.15 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 97.44 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 108.65 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 600 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1,800 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity * (NTUs)	DO (mg/l)	ORP (mv)
0	1425	13.71	colorless	odorless	4.88	64.68	4.677	34.84	0.39	227
1125	1428	13.71			4.94	64.26	4.674	17.91	0.21	222
2250	1431	13.72			5.02	63.95	4.668	15.79	0.14	219
3375	1434	13.72			5.08	63.72	4.651	62.99	0.10	218
4500	1437	13.72			6.09	63.66	4.735	24.66	0.06	166
5625	1440	13.72			6.00	63.80	4.731	22.69	0.04	172
6750	1443	13.72			5.94	63.59	4.719	26.72	0.03	177
7875	1446	13.72			5.98	63.42	4.726	63.00	0.02	150
9000	1449	13.72			5.79	63.38	4.706	51.00	0.01	158
9125	1451	13.72			5.74	63.30	4.680	43.26	0.01	162
10250	1454	13.72	↓	↓	5.74	63.38	4.691	84.04	0.01	163

Start Time: 1425
Stop Time: 1454
Elapsed Time: 29 min.
Average Purge Rate (mL/min): 450
Water Quality Meter ID: R16434
Date Calibrated: 8/30/11

SAMPLING DATA

Sample Date: 8/30/11
Sample Method: Low-Flow
VOA Vials, No Headspace ☒ Initials: MC
Sample Time: 1500
Sample Flow Rate: 450
Analysis: VOCs, MNA parameters
QAQC Samples: EB after this well – PSMW-10D-0811-EB

COMMENTS:
* air bubbles in the flow-through cell may have caused turbidity to read high.
Ferrous Iron: overrange (>3 ppm)

Appendix B

Chains-of-Custody

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/30/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier: FedEx	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 680-71927
St. Louis, MO 63110	Calendar (C) or Work Days (W)			21562682.00010
(314) 429-0100 Phone	TAT if different from Below Standard			SDG No.
(314) 429-0462 FAX	☐ 2 weeks			
Project Name: 3Q11 Supplemental GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1		Sample Specific Notes:
PSMW-10D -0811	8/30/11	1500	G	Water	12		3	1	1	1	3	2	1				
PSMW-10D -F(0.2)-0811	↓	1500	G	Water	2	X								1	1		
PSMW-10D-0811-EB	↓	1555	G	Water	3		3										
3Q11 SUPP Trip Blank # 1	8/30/11	—	—	Water	3		3										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	1	4	1	1	1	3,1	2	4	2	

Possible Hazard Identification
☐ *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: Level 4 Data Package

Temp 1.6°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	URS	8/30/11 1700	[signature]	TA	8/30/2011 1700
[signature]	TA	8/30/11 1738	Beth A Daughtry	TASAV	08.31.11 0937

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/31/11	COC No: 2
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier: FedEx	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 680-71976 21562682.00010
St. Louis, MO 63110	Calendar (C) or Work Days (W)			SDG No.
(314) 429-0100 Phone	TAT if different from Below Standard			
(314) 429-0462 FAX	☐ 2 weeks			
Project Name: 3Q11 Supplemental GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
PSMW-6D -0811	8/31/11	1020	G	Water	12		3	1	1	1	3	2	1			
PSMW-6D -F(0.2)-0811		1020	G	Water	2	X								1	1	
PSMW-6D-0811-MS		1020	G	Water	3		3									
PSMW-6D-0811-MSD		1020	G	Water	3		3									
GWE-1D-0811		1140	G	Water	12		3	1	1	1	3	2	1			
GWE-1D-F(0.2)-0811		1140	G	Water	2	X	2							1	1	
GWE-1D-0811-AD		1140	G	Water	3		3									
GWE-2D-0811		1340	G	Water	12		3	1	1	1	3	2	1			
GWE-2D-F(0.2)-0811		1340	G	Water	2	X								1	1	
GWE-3D-0811		1440	G	Water	12		3	1	1	1	3	2	1			
3Q11 SUPP Trip Blank # 2		—	—	Water	3		3									
GWE-3D-F(0.2)-0811		1440	G	Water	2	X								1	1	
							2	1	4	1	1	1	3,1	2	4	2

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

Possible Hazard Identification
☐ 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: Level 4 Data Package

Temp
3.0°C, 3.6°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	URS	8/31/11 1630		TA	8/31/11 1630
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA	8/31/11 1742	Beth a Daughtry	TA SAV	09.01.11 @ 0923
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

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

Supplemental Groundwater Monitoring Program
3rd Quarter 2011 Data Report

Prepared for

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

November 2011

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562703.00002

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in August of 2011 from locations northwest of the Solutia W.G. Krummrich plant, as part of the 3rd Quarter 2011 Supplemental Groundwater Monitoring Program. The samples were collected by URS Corporation personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methods, Standard methods and USEPA SW-846 methodologies. Groundwater samples were tested for volatile organic compounds (VOCs), dissolved gasses, total and dissolved metals, and general chemistry (MNAs).

One hundred percent of the data were subjected to a data quality review (Level III validation); ten percent of these data were subjected to a full data validation (Level IV validation). Please see **Appendix D** for groundwater validation reports (Full Validation of VOC Data – SDG KPS066, Full Validation of Metals Data – SDG KPS066, and Full Validation of Wet Chemistry Data – SDG KPS066). The Level III and IV validations were performed in order to confirm that the analytical data provided by TestAmerica Savannah were acceptable in quality for their intended use.

A total of 9 groundwater samples (five investigative samples, one field duplicate pair, one MS/MSD pair, and one equipment blank) were analyzed by Test America. In addition, two trip blank sets were included in the coolers that contained groundwater samples for VOC analysis and were analyzed for VOCs by USEPA SW-846 Method 8260B. These samples were analyzed as Sample Delivery Groups (SDG) KPS066 utilizing the following USEPA SW-846 Methods:

- Method 8260B for VOCs (Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene and 1,4-Dichlorobenzene)
- Method 6010B for total and dissolved iron and manganese

Samples were also analyzed for dissolved gasses and general chemistry parameters by the following methods:

- Method RSK-175 for Dissolved Gasses (Ethane, Ethylene, and Methane)
- USEPA Method 310.1 for Alkalinity and Free Carbon Dioxide
- USEPA Method 325.2 for Chloride
- USEPA Method 353.2 for Nitrogen, Nitrate-Nitrite
- USEPA Method 375.4 for Sulfate
- USEPA Method 415.1 for Total and Dissolved Organic Carbon

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, (USEPA 2004) and the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009).

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Qualifiers assigned by the data reviewer have been applied to the laboratory report. The qualifiers indicate data that did not meet acceptance criteria and corrective actions were not successful or not performed. The various qualifiers are explained in **Tables 1** and **2** below:

TABLE 1 – Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Analyte was not detected at or above the reporting limit.
*	LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits.
E	Result exceeded the calibration range, secondary dilution required.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Spike recovery exceeds upper or lower control limits.
F	MS, MSD or RPD exceeds upper or lower control limits.
P	The difference between the results of the two GC columns is greater than 40%
H	Sample was prepped or analyzed beyond the specified holding time.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

TABLE 2 – URS Data Qualifiers

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

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

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, field equipment blanks and trip blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard responses

Inorganics/General chemistry

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

The following sections present the results of the data review.

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

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

The laboratory case narrative indicated one VOC MS recovery was outside evaluation criteria in sample PSMW-6D-0811. Metals MS/MSD recoveries were outside evaluation criteria in sample PSMW-10D-F(0.2)-0811. Although not indicated in the laboratory case narrative, total and dissolved iron were detected in the method blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated one of three coolers was received by the laboratory at 1.6˚C which is outside the 4˚C ± 2˚C criteria. The samples were received in good condition; therefore, no qualification of data was required. Additionally, the cooler receipt form indicated insufficient volume was received for MS/MSD analyses. MS/MSD analyses were not requested with the samples collected 8/30/2011. Sufficient volume was submitted with samples collected 8/31/2011; MS/MSD analyses were completed as requested.

3.0 TRIP BLANKS, LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES

Trip blank samples are used to assess VOC cross contamination of samples during shipment to the laboratory. Trip blanks were submitted with each cooler shipped containing samples for VOC analyses for a total of two trip blank sample sets. All associated samples were nondetect; therefore, no qualification of data was required.

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. Method blank samples were non-detect with the exceptions summarized in the table below:

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 680-213979/1-A	Total metals	Iron	0.351 mg/L
MB 680-213979/1-A	Dissolved metals	Iron	0.351 mg/L

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

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. Equipment blank samples were nondetect.

4.0 SURROGATE SPIKE RECOVERIES

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

Groundwater surrogate recoveries were within evaluation criteria; therefore, no qualification of data was required.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Groundwater laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria. No qualification of data was required.

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

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were required to be collected at a frequency of one per 20 investigative samples in accordance with the work plan. URS Corporation submitted one MS/MSD sample set for 10 investigative samples meeting the work plan frequency requirement.

Sample PSMW-6D-0811 was spiked and analyzed for VOCs and nitrate-nitrite. Although not requested for MS/MSD analysis, sample PSMW-10D-F(0.2)-0811 was spiked and analyzed for dissolved organic carbon and total and dissolved metals.

USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. Therefore, if recoveries were outside evaluation criterion due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria.

Groundwater samples spiked and analyzed as MS/MSDs and their respective recoveries are discussed further in data reviews in **Appendix D**. No qualification of data was required.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results

of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One pair of field duplicate samples were collected for the five investigative groundwater samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Groundwater field duplicate RPDs were within evaluation criteria; therefore, no qualification of data was required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50 percent to +100 percent for VOCs.

The internal standards area responses for VOCs were verified for the data review. VOC IS responses met the criteria as described above for all water and sediment samples. No qualification of data was required.

9.0 RESULTS REPORTED FROM DILUTIONS

VOC, chloride, and sulfate results for groundwater samples were diluted when high levels of target analytes were present. The diluted sample results for these analytes were reported for the associated samples.

Appendix D

Groundwater Analytical Results

(with Data Review/Validation Reports)

Supplemental Groundwater Monitoring Program

3Q 2011 Data Review

Laboratory SDG: KPS066

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 10/20/2011

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

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
PSMW-10D-0811	PSMW-10D-F(0.2)-0811
PSMW-10D-0811-EB	3Q11 SUPP Trip Blank#1
PSMW-6D-0811	PSMW-6D-F(0.2)-0811
GWE-1D-0811	GWE-1D-F(0.2)-0811
GWE-1D-0811-AD	GWE-2D-0811
GWE-2D-F(0.2)-0811	GWE-3D-0811
3Q11 SUPP Trip Blank #2	GWE-3D-F(0.2)-0811

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated one VOC MS recovery was outside evaluation criteria in sample PSMW-6D-0811. Metals MS/MSD recoveries were outside evaluation criteria in sample PSMW-10D-F(0.2)-0811. Although not indicated in the laboratory case narrative, total and dissolved iron were detected in the method blank. These issues are discussed further in the appropriate sections below.

The cooler receipt form indicated one of three coolers was received by the laboratory at 1.6˚C which is outside the 4˚C ± 2˚C criteria. The samples were received in good condition; therefore, no qualification of data was required. Additionally, the cooler receipt form indicated insufficient volume was received for MS/MSD analyses. MS/MSD analyses were not requested with the samples collected 8/30/2011. Sufficient volume was submitted with samples collected 8/31/2011; MS/MSD analyses were completed as requested.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 680-213979/1-A	Total metals	Iron	0.351 mg/L
MB 680-213979/1-A	Dissolved metals	Iron	0.351 mg/L

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

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample PSMW-6D-0811 was spiked and analyzed for VOCs and nitrate-nitrite. Although not requested for MS/MSD analysis, sample PSMW-10D-F(0.2)-0811 was spiked and analyzed for dissolved organic carbon and total and dissolved iron and manganese.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PSMW-6D-0811	VOCs	Chlorobenzene	**34**/72	14	70-130/30

USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria for chlorobenzene in sample PSMW-6D-0811. MS/MSD recoveries for total and dissolved iron and manganese in sample PSMW-10D-F(0.2)-0811 could not be evaluated because sample concentrations were greater than four times (4X) the matrix spike concentrations. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

Yes, sample GWE-3D-0811 was duplicated and analyzed for chloride.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GWE-1D-0811	GWE-1D-0811-AD

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

FULL VALIDATION OF VOC DATA - SDG KPS066

This section describes the full validation for four water samples which were prepared by USEPA SW-846 Method 5030B and analyzed for volatile organic compounds (VOCs) by USEPA SW-846 Method 8260B. Samples were analyzed by Test America Laboratory of Savanna, Georgia, and submitted as part of sample delivery group (SDG) KPS066. Samples included as part of this validation are listed below:

Sample Identification	
PSMW-10D-0811	PSMW-6D-0811
GWE-1D-0811	GWE-3D-0811

QA/QC criteria were identified in USEPA SW-846 Method 8260B. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Organic Data Review (USEPA 2008) where applicable to SW-846 Method 8260B.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards and retention times
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

Although not indicated in the laboratory case narrative, one VOC MS recovery was outside evaluation criteria in sample PSMW-6D-0811. The cooler receipt form

indicated insufficient volume was received for MS/MSD analyses. MS/MSD analyses were not requested with the samples collected 8/30/2011. Sufficient volume was submitted with samples collected 8/31/2011; MS/MSD analyses were completed as requested.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chains-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The cooler receipt form indicated validated samples in one of three coolers were received by the laboratory at 1.6˚C which is outside the 4˚C ± 2˚C criteria. The samples were received in good condition; therefore, no qualification of data was required. The validated samples were received at a pH < 2 and were analyzed within the 14 day holding time criteria. No qualification of data was required due to sample preservation or holding time criteria.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8260B.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, and no qualification of data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. Samples as part of SDG KPS066 were analyzed using instrument MSA2. The ICAL for instrument MSA2 was established on 8/1/2011 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8260B. An average response factor (RF) was determined for each target analyte, the RFs were reviewed and verified greater than 0.10 (chloromethane, 1,1-dichloroethane and bromoform,), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other target analytes.

Review of the initial calibration summary forms indicated %RSDs were $\leq$ 30% for calibration check compounds (CCCs) [1,1-dichloroethene, toluene, chloroform, ethylbenzene, 1,2-dichloropropane, and vinyl chloride], and $\leq$ 15% for non-CCCs. Percent RSDs were recalculated from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

1.6 Calibration Verification

Review of the sample chromatograms indicated the calibration verifications (CVs) were performed at the required frequency every 12 hours. Review of continuing calibration summary forms indicated all RFs met the evaluation criteria of greater than 0.10 (chloromethane, 1,1-dichloroethane and bromoform), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other analytes for each CCAL. In addition, percent differences (%Ds) and percent drift (%Drift) met the evaluation criteria of $\leq$ 20% for CCCs and ≤ 30% for all other target analytes. Recalculations of the RFs and %Ds for two target compounds were completed for each CV, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8260B. All target compounds were reported as non-detect in all method blanks analyzed as part of this SDG. Target analytes for all trip blank samples were reported as non-detect. The review of chromatograms indicates all peaks present were accounted or the concentrations reported were below the method detection limit. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. All surrogate recoveries were within the method acceptance criteria

A minimum of 10% of the recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted and no qualification of data was required.

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

MS/MSD samples are analyzed to assess potential matrix effects. Validated sample PSMW-6D-0811 was spiked and analyzed for VOCs. MS/MSD recoveries were within evaluation criteria with the exception summarized below:

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PSMW-6D-0811	VOCs	Chlorobenzene	**34**/72	14	70-130/30

USEPA National Functional Guidelines for Superfund Organic Methods Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria for chlorobenzene in sample PSMW-6D-0811. No qualification of data was required.

Selected recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted and no qualification of data was required.

1.10 Internal Standards and Retention Times

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50% to +100%, and the IS retention times must be within 30 seconds of the IS continuing calibration retention time. IS areas and retention times for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors were noted.

1.11 Laboratory Control Sample (LCS)

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria. No qualification of data was required based on LCS recoveries.

A minimum of 10% of the spiking compound recoveries for the LCS's were recalculated using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantitation

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, the spectra of the identified compounds were verified against the library spectra, and the relative retention time was no greater than 0.06 different from the associated CV retention times. A minimum of 10% of the detected target analytes and spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, 10% of the target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG. In addition, completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect (**J**/**UJ**) data, was 100% for this SDG and should be used for their intended purpose.

FULL VALIDATION OF METALS DATA – SDG KPS066

This section describes the full data validation for five water samples which were prepared by USEPA SW-846 Methods 3005A and analyzed for total and dissolved iron and manganese by USEPA SW-846 Method 6010B. Samples were analyzed by TestAmerica Laboratory of Savanna, Georgia, and submitted as part of sample delivery group (SDG) KPS066. Samples included as part of this validation are listed below:

Sample Identification	
PSMW-10D- 0811	PSMW-10D-F(0.2)-0811
PSMW-6D-0811	GWE-2D-F(0.2)-0811
GWE-3D-0811	

Criteria were identified in the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009) and USEPA SW-846 Method 6010B. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Program National Functional Guidelines for Inorganic Data Review (USEPA 2004) where applicable to SW-846 Method 6010B.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative /cooler receipt form
- Sample preservation and holding times
- Blank contamination
- Initial calibration
- Calibration verification
- Laboratory control sample (LCS)
- Matrix spike/matrix spike duplicate (MS/MSD)
- Laboratory duplicate sample
- ICP serial dilution
- ICP interference check samples (ICS)
- Sample result verification
- Overall assessment of data

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete for metals for this SDG.

1.2 Laboratory Case Narrative / Cooler Receipt Form

The laboratory case narrative indicated total and dissolved iron MS/MSD recoveries were outside evaluation criteria in sample PSMW-10D-F(0.2)-0811. Although not indicated in the laboratory case narrative, total and dissolved iron were detected in the method blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated one of three coolers was received by the laboratory at 1.6˚C which is outside the 4˚C ± 2˚C criteria. The samples were received in good condition; therefore, no qualification of data was required. Additionally, the cooler receipt form indicated insufficient volume was received for MS/MSD analyses. MS/MSD analyses were not requested with the samples collected 8/30/2011. Sufficient volume was submitted with samples collected 8/31/2011; MS/MSD analyses were completed as requested.

1.3 Sample Preservation and Holding Times

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the sample preparation logs, the analysis run logs, and raw data forms for holding time compliance. The validated samples were received at pH < 2 and were analyzed within the evaluation criteria of 6 months for metals. No qualification of data was required based on holding time criteria or sample preservation.

1.4 Blank Contamination

The purpose of blank samples was to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Total and dissolved iron were detected in the method blank.

Blank ID	Parameter	Analyte	Concentration
MB 680-213979/1-A	Total metals	Iron	0.351 mg/L
MB 680-213979/1-A	Dissolved metals	Iron	0.351 mg/L

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

1.5 Initial Calibration

Initial calibration (ICAL) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for metals analyses. An ICAL was analyzed at the beginning of the run sequence. ICAL curves were established using a blank and three standards for analysis of metals by inductively coupled plasma atomic emission (ICP-AE). All initial calibration verification (ICV) recoveries were within evaluation criteria (90-110%). A minimum of 10% of the ICAL curve and ICV recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of the data was required based on ICV data.

1.6 Calibration Verification

Calibration verification (CV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data established by the ICAL. The laboratory analyzed CV samples at a frequency of 10% as specified by the methodologies. CV samples associated with the validated samples had recoveries within the evaluation criteria (90-110%). A minimum of 10% of the CV sample recoveries were recalculated and compared to the raw data and no calculation or transcription errors were noted.

1.7 Laboratory Control Sample (LCS)

Laboratory control spike (LCS) samples were analyzed to assess the accuracy of the analytical method and to demonstrate laboratory performance. The LCS recoveries for metals were within evaluation criteria (75-125%). A minimum of 10% of the LCS recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted. No qualification of data was required based on LCS recoveries.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples are analyzed to assess accuracy, precision and the effects of matrix interference during the analysis of a particular sample. Although not requested for MS/MSD analysis, sample PSMW-10D-F(0.2)-0811 was spiked and analyzed for total and dissolved iron and manganese. MS/MSD recoveries for total and dissolved iron and manganese in sample PSMW-10D-F(0.2)-0811 could not be evaluated because sample concentrations were greater than four times (4X) the matrix spike concentrations. No qualification of data was required.

1.9 Laboratory Duplicate Sample

Laboratory duplicate samples are analyzed to assess the precision of a particular sample. No laboratory duplicates were analyzed for the metals samples chosen for validation.

1.10 ICP Serial Dilution

Serial dilutions were analyzed to assess the potential significant physical or chemical interferences due to sample matrix. Serial dilutions were analyzed on sample PSMW-10D-F(0.2)-0811. Serial dilution percent differences (%Ds) were within evaluation criteria (+/- 10%). No qualification of data was required.

1.11 ICP Interference Check Sample

An Interference Check Sample (ICS) was analyzed to verify the contract laboratory's interelement and background correction factors for analysis of total and dissolved metals. The laboratory analyzed the ICS at the beginning of the analytical run as specified in USEPA SW-846 Method 6010B. The ICS recoveries for all metals analyzed were within evaluation criteria (80-120%); therefore, no qualification of total and dissolved metals data was required. Selected ICS recoveries were recalculated and compared to the raw data; no transcription or calculation errors were noted.

1.12 Sample Result Verification

The metals results were compared to the raw data to validate that analyte quantitation was derived accurately, and no calculation errors were noted. Data summary forms were reviewed and compared to the raw data package. No transcription errors were noted and the correct reporting limits were used.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Completeness, defined to be the percentage of analytical results that are judged to be valid was 100% for this SDG.

FULL VALIDATION OF GENERAL CHEMISTRY DATA – SDG KPS066

This section describes the full data validation of four water samples which were analyzed for various wet chemistry parameters. The analytical parameters and methodologies are summarized below:

Parameter	Method	Reference
Nitrate/Nitrite	353.2	USEPA Methods for Chemical Analysis of Water and Waste (USEPA, 1983)
Sulfate	375.4	
Total and dissolved Organic Carbon	415.1	
Chloride	325.2	
Alkalinity	310.1	
Carbon Dioxide	Calc from 310.1	
Dissolved Gasses	RSK-175	RSK-175

Samples were analyzed by TestAmerica Laboratory, of Savannah, Georgia, and submitted as part of sample delivery group (SDG) KPS066. Samples included as a part of this validation are listed below:

Sample Identification	
PSMW-10D-F(0.2)-0811	PSMW-6D-0811
GWE-2D-F(0.2)-0811	GWE-3D-0811

Evaluation of the analytical data followed procedures outlined in USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004), where applicable to the above mentioned USEPA Methods. The evaluation criteria used during the validation were a combination of those criteria presented in the respective methods and the laboratory criteria based on historical data.

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Sample preservation and holding times
- Blank contamination
- Initial calibration
- Calibration verification
- Laboratory control samples (LCS)
- Laboratory duplicate analysis
- Matrix spike/matrix spike duplicate samples (MS/MSD)
- Sample result verification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective method. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

No problems for MNA parameters were indicated in the laboratory case narrative for the validated samples. The cooler receipt form indicated insufficient volume was received for MS/MSD analyses. MS/MSD analyses were not requested with the samples collected 8/30/2011. Sufficient volume was submitted with samples collected 8/31/2011; MS/MSD analyses were completed as requested.

1.3 Sample Preservation and Holding Times

Review of the sample collection, extraction and analyses dates involved comparing the chain-of-custody, the sample preparation logs, the analysis run logs, and raw data forms for holding time compliance. Validated samples in one of three coolers were received by the laboratory at 1.6˚C which is outside the 4˚C ± 2˚C criteria. The samples were received in good condition; therefore, no qualification of data was required. The samples were persevered at a pH < 2 for sulfate and total organic carbon and all samples were analyzed within holding time criteria; 28 days for chloride, nitrate/nitrite, sulfate, total organic carbon and 14 days for alkalinity and RSK-175. No qualifications of data were required based on holding times and sample preservation.

1.4 Blank Contamination

The purpose of method blank samples was to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required. A review of the method blank summary forms and the raw data forms indicated all target MNA compounds were reported as non-detect. No qualification of data was required.

1.5 Initial Calibration

Initial calibration (ICAL) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for the wet chemistry analyses. Alkalinity concentrations are determined by titration; therefore, no calibration curve was generated. The verification of alkalinity analyses was achieved with the analysis of laboratory control samples (LCS). The LCS data is further discussed in the appropriate section below. An initial calibration was established at the beginning of the run sequence for the all other analyses. A minimum of five standards was used to establish the initial calibration curve as required by the analytical methods. Review of the initial calibration data indicated that the correlation coefficient (r) values were greater than 0.995 for all calibration curves; therefore, no qualification of data was required. The ICAL for RSK-175 was established using at least eight concentration standards to establish the external calibration. No qualification of data was required based on initial calibration. Selected initial calibration and ICV recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted.

1.6 Calibration Verification

Calibration verification (CV) criteria were established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data established by the initial calibration curve. CV samples were analyzed at the required frequency of every 10 samples and the percent differences (%D) or percent drift (%drift) values were within evaluation criteria for each analyte.

Approximately 10% of the CV sample recoveries were recalculated and compared to the raw data. No calculation or transcription errors were noted.

1.7 Laboratory Control Sample

Laboratory control samples (LCS) were established to assess the accuracy of the analytical method and to demonstrate laboratory performance. LCS recoveries were within the evaluation criteria; therefore, no qualification of data was required. Selected LCS recoveries were recalculated and compared to the raw data; no calculation or transcription errors were noted.

1.8 Laboratory Duplicate Analysis

Laboratory duplicate samples assess the precision of a particular sample. Sample GWE-3D-0811 was duplicated and analyzed for chloride. Laboratory duplicate RPDs were within evaluation criteria; therefore, no qualification of data was required.

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

MS/MSD samples are analyzed to assess the accuracy, precision and the effects of matrix interference during the analysis of a particular sample. Although not requested for MS/MSD analysis, sample PSMW-10D-F(0.2)-0811 was spiked and analyzed for dissolved organic carbon. Sample PSMW-6D-0811 was spiked and analyzed for nitrate-nitrite. MS/MSD recoveries were within evaluation criteria; therefore, no qualification of data was required.

1.10 Sample Result Verification

Selected validated sample results were recalculated to verify that analyte quantitation was derived accurately, and no calculation errors were noted. Data summary forms were reviewed and compared to the raw data package. No transcription errors were noted and the correct reporting limits were used.

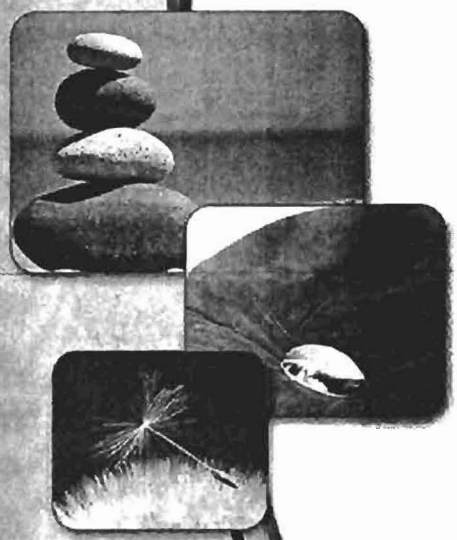
1.11 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Completeness, defined to be the percentage of analytical results that are judged to be valid, including estimated detect/non-detect (**J/UJ**) data, was 100 percent for this SDG.

SDG KPS066

Results of Samples from Monitoring Wells:

GWE-1D
GWE-2D
GWE-3D
PS-MW-6D
PS-MW-10D



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 680-71927-1
TestAmerica Sample Delivery Group: KPS066
Client Project/Site: WGK Supplemental GW - 3Q11

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

Attn: Mr. Jerry Rinaldi

Lidya Gulizia

Authorized for release by:
09/29/2011 03:48:29 PM

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

cc: Bob Billman Dave Palmer

Reviewed on

OCT 03 2011 EZK

Table of Contents

Job ID: 680-71927-1

Laboratory: TestAmerica Savannah

Narrative

Job Narrative
680-71927-1 / SDG KPS066

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method(s) 8260B: The matrix spike(MS) for batch 214058 recovered outside control limits for 1 analyte. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC VOA
Method(s) RSK-175: The matrix spike duplicate (MSD) recoveries for methane and ethane in batch 214737 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) RSK-175: Manual integration was performed on the following sample(s): MB 680-213857/16.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Comments
No additional comments.

Sample Summary

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-71927-1	PSMW-10D-0811	Water	08/30/11 15:00	08/31/11 09:37
680-71927-2	PSMW-10D-F(0.2)-0811	Water	08/30/11 15:00	08/31/11 09:37
680-71927-3	PSMW-10D-0811-EB	Water	08/30/11 15:55	08/31/11 09:37
680-71927-4	3Q11 SUPP Trip Blank #1	Water	08/30/11 00:00	08/31/11 09:37
680-71976-1	PSMW-6D-0811	Water	08/31/11 10:20	09/01/11 09:23
680-71976-2	PSMW-6D-F(0.2)-0811	Water	08/31/11 10:20	09/01/11 09:23
680-71976-3	GWE-1D-0811	Water	08/31/11 11:40	09/01/11 09:23
680-71976-4	GWE-1D-F(0.2)-0811	Water	08/31/11 11:40	09/01/11 09:23
680-71976-5	GWE-1D-0811-AD	Water	08/31/11 11:40	09/01/11 09:23
680-71976-6	GWE-2D-0811	Water	08/31/11 13:40	09/01/11 09:23
680-71976-7	GWE-2D-F(0.2)-0811	Water	08/31/11 13:40	09/01/11 09:23
680-71976-8	GWE-3D-0811	Water	08/31/11 14:40	09/01/11 09:23
680-71976-9	3Q11 SUPP Trip Blank #2	Water	08/31/11 00:00	09/01/11 09:23
680-71976-10	GWE-3D-F(0.2)-0811	Water	08/31/11 14:40	09/01/11 09:23

Method Summary

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	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 SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F	MS or MSD exceeds the control limits

GC VOA

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

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-10D-0811 — Lab Sample ID: 680-71927-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	18		1.0		ug/L	1		8260B	Total/NA
Ethane	1.7		1.1		ug/L	1		RSK-175	Total/NA
Methane	26		0.58		ug/L	1		RSK-175	Total/NA
Iron	150		0.050		mg/L	1		6010B	Total Recovera
Manganese	3.9		0.010		mg/L	1		6010B	Total Recovera
Chloride	200		5.0		mg/L	5		325.2	Total/NA
Sulfate	2300		500		mg/L	100		375.4	Total/NA
Total Organic Carbon	3.5		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	310		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	150		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: PSMW-10D-F(0.2)-0811 — Lab Sample ID: 680-71927-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	150		0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	4.0		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	3.4		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: PSMW-10D-0811-EB — Lab Sample ID: 680-71927-3

No Detections

Client Sample ID: 3Q11 SUPP Trip Blank #1 — Lab Sample ID: 680-71927-4

No Detections

Client Sample ID: PSMW-6D-0811 — Lab Sample ID: 680-71976-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1100		10		ug/L	10		8260B	Total/NA
1,4-Dichlorobenzene	37		10		ug/L	10		8260B	Total/NA
Ethane	3.3		1.1		ug/L	1		RSK-175	Total/NA
Methane	80		0.58		ug/L	1		RSK-175	Total/NA
Iron	14	B	0.050		mg/L	1		6010B	Total Recovera
Manganese	5.4		0.010		mg/L	1		6010B	Total Recovera
Chloride	230		5.0		mg/L	5		325.2	Total/NA
Sulfate	480		100		mg/L	20		375.4	Total/NA
Total Organic Carbon	4.4		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	500		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	99		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: PSMW-6D-F(0.2)-0811 — Lab Sample ID: 680-71976-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	14	B	0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	5.4		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	4.6		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: GWE-1D-0811 — Lab Sample ID: 680-71976-3

OCT 0 3 2011

Client Sample ID: GWE-1D-0811 (Continued) — Lab Sample ID: 680-71976-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	9.1		0.58		ug/L	1		RSK-175	Total/NA
Iron	16	B	0.050		mg/L	1		6010B	Total Recovera
Manganese	0.46		0.010		mg/L	1		6010B	Total Recovera
Chloride	69		1.0		mg/L	1		325.2	Total/NA
Sulfate	260		50		mg/L	10		375.4	Total/NA
Total Organic Carbon	3.1		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	410		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	25		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-1D-F(0.2)-0811 — Lab Sample ID: 680-71976-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	15	B	0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.44		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	3.0		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: GWE-1D-0811-AD — Lab Sample ID: 680-71976-5

No Detections

Client Sample ID: GWE-2D-0811 — Lab Sample ID: 680-71976-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	9.5		1.0		ug/L	1		8260B	Total/NA
Methane	4.3		0.58		ug/L	1		RSK-175	Total/NA
Iron	15	B	0.050		mg/L	1		6010B	Total Recovera
Manganese	0.37		0.010		mg/L	1		6010B	Total Recovera
Chloride	160		2.0		mg/L	2		325.2	Total/NA
Sulfate	300		50		mg/L	10		375.4	Total/NA
Total Organic Carbon	3.1		1.0		mg/L	1		415.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	460		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	35		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-2D-F(0.2)-0811 — Lab Sample ID: 680-71976-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	15	B	0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.38		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	3.1		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: GWE-3D-0811 — Lab Sample ID: 680-71976-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	630		10		ug/L	10		8260B	Total/NA
1,4-Dichlorobenzene	19		10		ug/L	10		8260B	Total/NA
Methane	8.9		0.58		ug/L	1		RSK-175	Total/NA
Iron	14	B	0.050		mg/L	1		6010B	Total Recovera
Manganese	0.42		0.010		mg/L	1		6010B	Total Recovera
Chloride	60		1.0		mg/L	1		325.2	Total/NA
Sulfate	150		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	3.0		1.0		mg/L	1		415.1	Total/NA

Client Sample ID: GWE-3D-0811 (Continued) — **Lab Sample ID: 680-71976-8**

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	480		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	35		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: 3Q11 SUPP Trip Blank #2 — **Lab Sample ID: 680-71976-9**

No Detections

Client Sample ID: GWE-3D-F(0.2)-0811 — **Lab Sample ID: 680-71976-10**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	14	B	0.050		mg/L	1		6010B	Dissolved
Manganese, Dissolved	0.41		0.010		mg/L	1		6010B	Dissolved
Dissolved Organic Carbon	3.0		1.0		mg/L	1		415.1	Dissolved

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-10D-0811
Date Collected: 08/30/11 15:00
Date Received: 08/31/11 09:37

Lab Sample ID: 680-71927-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/02/11 20:05	1
Chlorobenzene	**18**		1.0		ug/L			09/02/11 20:05	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 20:05	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 20:05	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 20:05	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*70 - 130*		*09/02/11 20:05*	*1*
Dibromofluoromethane	*102*		*70 - 130*		*09/02/11 20:05*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/02/11 20:05*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**1.7**		1.1		ug/L			09/02/11 20:10	1
Ethylene	1.0	U	1.0		ug/L			09/02/11 20:10	1
Methane	**26**		0.58		ug/L			09/02/11 20:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**150**		0.050		mg/L		09/01/11 16:38	09/07/11 21:37	1
Manganese	**3.9**		0.010		mg/L		09/01/11 16:38	09/07/11 21:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**200**		5.0		mg/L			09/08/11 11:20	5
Nitrate as N	0.050	U	0.050		mg/L			08/31/11 14:55	1
Sulfate	**2300**		500		mg/L			09/12/11 10:32	100
Total Organic Carbon	**3.5**		1.0		mg/L			09/01/11 10:15	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**310**		5.0		mg/L			09/02/11 19:00	1
Carbon Dioxide, Free	**150**		5.0		mg/L			09/02/11 19:00	1

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-10D-F(0.2)-0811
Date Collected: 08/30/11 15:00
Date Received: 08/31/11 09:37

Lab Sample ID: 680-71927-2
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	150		0.050		mg/L		09/01/11 16:42	09/07/11 21:42	1
Manganese, Dissolved	4.0		0.010		mg/L		09/01/11 16:42	09/07/11 21:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.4		1.0		mg/L			09/03/11 09:11	1

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-10D-0811-EB
Date Collected: 08/30/11 15:55
Date Received: 08/31/11 09:37

Lab Sample ID: 680-71927-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/02/11 17:30	1
Chlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:30	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:30	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:30	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:30	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*70 - 130*		*09/02/11 17:30*	*1*
Dibromofluoromethane	*101*		*70 - 130*		*09/02/11 17:30*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/02/11 17:30*	*1*

OCT 0 3 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: 3Q11 SUPP Trip Blank #1
Date Collected: 08/30/11 00:00
Date Received: 08/31/11 09:37

Lab Sample ID: 680-71927-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/02/11 17:52	1
Chlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:52	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:52	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:52	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 17:52	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*86*		*70 - 130*		*09/02/11 17:52*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*09/02/11 17:52*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*09/02/11 17:52*	*1*

OCT 0 3 2011

EZR

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-6D-0811
Date Collected: 08/31/11 10:20
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10	U	10		ug/L			09/06/11 19:21	10
Chlorobenzene	**1100**		10		ug/L			09/06/11 19:21	10
1,2-Dichlorobenzene	10	U	10		ug/L			09/06/11 19:21	10
1,3-Dichlorobenzene	10	U	10		ug/L			09/06/11 19:21	10
1,4-Dichlorobenzene	**37**		10		ug/L			09/06/11 19:21	10

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*70 - 130*		*09/06/11 19:21*	*10*
Dibromofluoromethane	*96*		*70 - 130*		*09/06/11 19:21*	*10*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/06/11 19:21*	*10*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**3.3**		1.1		ug/L			09/13/11 15:24	1
Ethylene	1.0	U	1.0		ug/L			09/13/11 15:24	1
Methane	**80**		0.58		ug/L			09/13/11 15:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**14**	B	0.050		mg/L		09/06/11 15:29	09/07/11 18:36	1
Manganese	**5.4**		0.010		mg/L		09/06/11 15:29	09/07/11 18:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**230**		5.0		mg/L			09/08/11 11:20	5
Nitrate as N	0.050	U	0.050		mg/L			09/01/11 15:25	1
Sulfate	**480**		100		mg/L			09/12/11 10:32	20
Total Organic Carbon	**4.4**		1.0		mg/L			09/03/11 14:37	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**500**		5.0		mg/L			09/02/11 17:30	1
Carbon Dioxide, Free	**99**		5.0		mg/L			09/02/11 17:30	1

OCT 0 3 2011

EZK

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-6D-F(0.2)-0811
Date Collected: 08/31/11 10:20
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-2
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	14	B	0.050		mg/L		09/06/11 15:29	09/07/11 18:41	1
Manganese, Dissolved	5.4		0.010		mg/L		09/06/11 15:29	09/07/11 18:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.6		1.0		mg/L			09/03/11 09:11	1

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-1D-0811
Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/07/11 13:03	1
Chlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:03	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:03	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:03	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:03	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*70 - 130*		*09/07/11 13:03*	*1*
Dibromofluoromethane	*101*		*70 - 130*		*09/07/11 13:03*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/07/11 13:03*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			09/13/11 15:37	1
Ethylene	1.0	U	1.0		ug/L			09/13/11 15:37	1
Methane	**9.1**		0.58		ug/L			09/13/11 15:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**16**	B	0.050		mg/L		09/06/11 15:29	09/07/11 18:46	1
Manganese	**0.46**		0.010		mg/L		09/06/11 15:29	09/07/11 18:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69**		1.0		mg/L			09/08/11 11:02	1
Nitrate as N	0.050	U	0.050		mg/L			09/01/11 15:29	1
Sulfate	**260**		50		mg/L			09/12/11 10:15	10
Total Organic Carbon	**3.1**		1.0		mg/L			09/03/11 14:53	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**410**		5.0		mg/L			09/02/11 17:39	1
Carbon Dioxide, Free	**25**		5.0		mg/L			09/02/11 17:39	1

OCT 0 3 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-1D-F(0.2)-0811
Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-4
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	15	B	0.050		mg/L		09/06/11 15:29	09/07/11 19:01	1
Manganese, Dissolved	0.44		0.010		mg/L		09/06/11 15:29	09/07/11 19:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.0		1.0		mg/L			09/03/11 09:11	1

OCT 0 3 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-1D-0811-AD
Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/06/11 18:36	1
Chlorobenzene	1.0	U	1.0		ug/L			09/06/11 18:36	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 18:36	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 18:36	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 18:36	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*70 - 130*		*09/06/11 18:36*	*1*
Dibromofluoromethane	*101*		*70 - 130*		*09/06/11 18:36*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*09/06/11 18:36*	*1*

OCT 0 3 2011

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-2D-0811
Date Collected: 08/31/11 13:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/07/11 13:25	1
Chlorobenzene	**9.5**		1.0		ug/L			09/07/11 13:25	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:25	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:25	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 13:25	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*70 - 130*		*09/07/11 13:25*	*1*
Dibromofluoromethane	*101*		*70 - 130*		*09/07/11 13:25*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/07/11 13:25*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			09/13/11 15:49	1
Ethylene	1.0	U	1.0		ug/L			09/13/11 15:49	1
Methane	**4.3**		0.58		ug/L			09/13/11 15:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**15**	**B**	0.050		mg/L		09/06/11 15:29	09/07/11 19:06	1
Manganese	**0.37**		0.010		mg/L		09/06/11 15:29	09/07/11 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		2.0		mg/L			09/08/11 11:10	2
Nitrate as N	0.050	U	0.050		mg/L			09/01/11 15:30	1
Sulfate	**300**		50		mg/L			09/12/11 10:22	10
Total Organic Carbon	**3.1**		1.0		mg/L			09/03/11 15:10	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**460**		5.0		mg/L			09/02/11 17:48	1
Carbon Dioxide, Free	**35**		5.0		mg/L			09/02/11 17:48	1

OCT 0 3 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-2D-F(0.2)-0811
Date Collected: 08/31/11 13:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-7
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	15	B	0.050		mg/L		09/06/11 15:29	09/07/11 19:12	1
Manganese, Dissolved	0.38		0.010		mg/L		09/06/11 15:29	09/07/11 19:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.1		1.0		mg/L			09/03/11 09:11	1

OCT 0 3 2011

EZR

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-3D-0811
Date Collected: 08/31/11 14:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	10	U	10		ug/L			09/06/11 18:58	10
Chlorobenzene	**630**		10		ug/L			09/06/11 18:58	10
1,2-Dichlorobenzene	10	U	10		ug/L			09/06/11 18:58	10
1,3-Dichlorobenzene	10	U	10		ug/L			09/06/11 18:58	10
1,4-Dichlorobenzene	**19**		10		ug/L			09/06/11 18:58	10

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*70 - 130*		*09/06/11 18:58*	*10*
Dibromofluoromethane	*100*		*70 - 130*		*09/06/11 18:58*	*10*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/06/11 18:58*	*10*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			09/13/11 16:02	1
Ethylene	1.0	U	1.0		ug/L			09/13/11 16:02	1
Methane	**8.9**		0.58		ug/L			09/13/11 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**14**	**B**	0.050		mg/L		09/06/11 15:29	09/07/11 19:17	1
Manganese	**0.42**		0.010		mg/L		09/06/11 15:29	09/07/11 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60**		1.0		mg/L			09/08/11 11:02	1
Nitrate as N	0.050	U	0.050		mg/L			09/01/11 15:31	1
Sulfate	**150**		25		mg/L			09/12/11 09:59	5
Total Organic Carbon	**3.0**		1.0		mg/L			09/03/11 15:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**480**		5.0		mg/L			09/02/11 17:58	1
Carbon Dioxide, Free	**35**		5.0		mg/L			09/02/11 17:58	1

OCT 0 3 2011

TestAmerica Savannah

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: 3Q11 SUPP Trip Blank #2
Date Collected: 08/31/11 00:00
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/06/11 16:23	1
Chlorobenzene	1.0	U	1.0		ug/L			09/06/11 16:23	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 16:23	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 16:23	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 16:23	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*82*		*70 - 130*		*09/06/11 16:23*	*1*
Dibromofluoromethane	*106*		*70 - 130*		*09/06/11 16:23*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*09/06/11 16:23*	*1*

OCT 03 2011

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-3D-F(0.2)-0811
Date Collected: 08/31/11 14:40
Date Received: 09/01/11 09:23

Lab Sample ID: 680-71976-10
Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	14	B	0.050		mg/L		09/06/11 15:29	09/07/11 19:22	1
Manganese, Dissolved	0.41		0.010		mg/L		09/06/11 15:29	09/07/11 19:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.0		1.0		mg/L			09/03/11 09:11	1

OCT 0 3 2011

EZK

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Method: 8260B - Volatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-71927-1	PSMW-10D-0811	88	102	96
680-71927-3	PSMW-10D-0811-EB	86	101	96
680-71927-4	3Q11 SUPP Trip Blank #1	86	104	94
680-71976-1	PSMW-6D-0811	87	96	98
680-71976-1 MS	PSMW-6D-0811	105	95	108
680-71976-1 MSD	PSMW-6D-0811	100	93	101
680-71976-3	GWE-1D-0811	83	101	98
680-71976-5	GWE-1D-0811-AD	83	101	97
680-71976-6	GWE-2D-0811	82	101	98
680-71976-8	GWE-3D-0811	83	100	98
680-71976-9	3Q11 SUPP Trip Blank #2	82	106	99
LCS 680-213772/9	Lab Control Sample	96	95	94
LCS 680-214058/3	Lab Control Sample	115	111	113
LCS 680-214116/3	Lab Control Sample	102	98	104
LCSD 680-213772/11	Lab Control Sample Dup	103	100	100
LCSD 680-214058/4	Lab Control Sample Dup	87	87	91
LCSD 680-214116/4	Lab Control Sample Dup	101	98	104
MB 680-213772/12	Method Blank	90	103	98
MB 680-214058/6	Method Blank	84	103	95
MB 680-214116/6	Method Blank	83	101	96

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

OCT 0 3 2011

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-213772/12
Matrix: Water
Analysis Batch: 213772

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/02/11 11:57	1
Chlorobenzene	1.0	U	1.0		ug/L			09/02/11 11:57	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 11:57	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 11:57	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/02/11 11:57	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*70 - 130*		*09/02/11 11:57*	*1*
Dibromofluoromethane	*103*		*70 - 130*		*09/02/11 11:57*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*09/02/11 11:57*	*1*

Lab Sample ID: LCS 680-213772/9
Matrix: Water
Analysis Batch: 213772

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	48.3		ug/L		97	70 - 130
Chlorobenzene	50.0	45.9		ug/L		92	70 - 130
1,2-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 130
1,3-Dichlorobenzene	50.0	47.0		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	49.6		ug/L		99	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*70 - 130*
Dibromofluoromethane	*95*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 680-213772/11
Matrix: Water
Analysis Batch: 213772

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
Benzene	50.0	50.6		ug/L		101	70 - 130	5	30
Chlorobenzene	50.0	49.4		ug/L		99	70 - 130	7	30
1,2-Dichlorobenzene	50.0	52.0		ug/L		104	70 - 130	7	30
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130	7	30
1,4-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130	6	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*70 - 130*
Dibromofluoromethane	*100*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 680-214058/6
Matrix: Water
Analysis Batch: 214058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/06/11 13:05	1

OCT 03 2011

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-214058/6
Matrix: Water
Analysis Batch: 214058

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	1.0	U	1.0		ug/L			09/06/11 13:05	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 13:05	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 13:05	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/06/11 13:05	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*84*		*70 - 130*		*09/06/11 13:05*	*1*
Dibromofluoromethane	*103*		*70 - 130*		*09/06/11 13:05*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*09/06/11 13:05*	*1*

Lab Sample ID: LCS 680-214058/3
Matrix: Water
Analysis Batch: 214058

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	59.5		ug/L		119	70 - 130
Chlorobenzene	50.0	58.1		ug/L		116	70 - 130
1,2-Dichlorobenzene	50.0	60.6		ug/L		121	70 - 130
1,3-Dichlorobenzene	50.0	59.5		ug/L		119	70 - 130
1,4-Dichlorobenzene	50.0	62.8		ug/L		126	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*115*		*70 - 130*
Dibromofluoromethane	*111*		*70 - 130*
Toluene-d8 (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 680-214058/4
Matrix: Water
Analysis Batch: 214058

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
Benzene	50.0	47.7		ug/L		95	70 - 130	22	30
Chlorobenzene	50.0	44.7		ug/L		89	70 - 130	26	30
1,2-Dichlorobenzene	50.0	48.0		ug/L		96	70 - 130	23	30
1,3-Dichlorobenzene	50.0	45.5		ug/L		91	70 - 130	27	30
1,4-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130	27	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*87*		*70 - 130*
Dibromofluoromethane	*87*		*70 - 130*
Toluene-d8 (Surr)	*91*		*70 - 130*

Lab Sample ID: 680-71976-1 MS
Matrix: Water
Analysis Batch: 214058

Client Sample ID: PSMW-6D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	10	U	500	533		ug/L		106	70 - 130
Chlorobenzene	1100		500	1250	F	ug/L		34	70 - 130

OCT 0 3 2011 EK

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-71976-1 MS
Matrix: Water
Analysis Batch: 214058

Client Sample ID: PSMW-6D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
1,2-Dichlorobenzene	10	U	500	575		ug/L		114	70 - 130
1,3-Dichlorobenzene	10	U	500	538		ug/L		108	70 - 130
1,4-Dichlorobenzene	37		500	620		ug/L		117	70 - 130

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*70 - 130*
Dibromofluoromethane	*95*		*70 - 130*
Toluene-d8 (Surr)	*108*		*70 - 130*

Lab Sample ID: 680-71976-1 MSD
Matrix: Water
Analysis Batch: 214058

Client Sample ID: PSMW-6D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	10	U	500	497		ug/L		98	70 - 130	7	30
Chlorobenzene	1100		500	1450		ug/L		72	70 - 130	14	30
1,2-Dichlorobenzene	10	U	500	541		ug/L		107	70 - 130	6	30
1,3-Dichlorobenzene	10	U	500	505		ug/L		101	70 - 130	6	30
1,4-Dichlorobenzene	37		500	600		ug/L		113	70 - 130	3	30

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*70 - 130*
Dibromofluoromethane	*93*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 680-214116/6
Matrix: Water
Analysis Batch: 214116

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			09/07/11 12:41	1
Chlorobenzene	1.0	U	1.0		ug/L			09/07/11 12:41	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 12:41	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 12:41	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			09/07/11 12:41	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*83*		*70 - 130*		*09/07/11 12:41*	*1*
Dibromofluoromethane	*101*		*70 - 130*		*09/07/11 12:41*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*09/07/11 12:41*	*1*

Lab Sample ID: LCS 680-214116/3
Matrix: Water
Analysis Batch: 214116

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	50.0	53.2		ug/L		106	70 - 130
Chlorobenzene	50.0	51.5		ug/L		103	70 - 130
1,2-Dichlorobenzene	50.0	54.8		ug/L		110	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-214116/3
Matrix: Water
Analysis Batch: 214116

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,3-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	56.0		ug/L		112	70 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*70 - 130*
Dibromofluoromethane	*98*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 680-214116/4
Matrix: Water
Analysis Batch: 214116

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
Benzene	50.0	53.0		ug/L		106	70 - 130	0	30
Chlorobenzene	50.0	52.5		ug/L		105	70 - 130	2	30
1,2-Dichlorobenzene	50.0	55.0		ug/L		110	70 - 130	0	30
1,3-Dichlorobenzene	50.0	54.2		ug/L		108	70 - 130	1	30
1,4-Dichlorobenzene	50.0	56.4		ug/L		113	70 - 130	1	30

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*70 - 130*
Dibromofluoromethane	*98*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-213857/16
Matrix: Water
Analysis Batch: 213857

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			09/02/11 17:10	1
Ethylene	1.0	U	1.0		ug/L			09/02/11 17:10	1
Methane	0.58	U	0.58		ug/L			09/02/11 17:10	1

Lab Sample ID: LCS 680-213857/14
Matrix: Water
Analysis Batch: 213857

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethane	282	328		ug/L		116	75 - 125
Ethylene	271	323		ug/L		119	75 - 125
Methane	153	184		ug/L		120	75 - 125

OCT 0 3 2011

TestAmerica Savannah

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

Lab Sample ID: LCSD 680-213857/15
Matrix: Water
Analysis Batch: 213857

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethane	282	323		ug/L		114	75 - 125	2	30
Ethylene	271	314		ug/L		116	75 - 125	3	30
Methane	153	181		ug/L		118	75 - 125	1	30

Lab Sample ID: MB 680-214599/13
Matrix: Water
Analysis Batch: 214599

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			09/13/11 12:38	1
Ethylene	1.0	U	1.0		ug/L			09/13/11 12:38	1
Methane	0.58	U	0.58		ug/L			09/13/11 12:38	1

Lab Sample ID: LCS 680-214599/12
Matrix: Water
Analysis Batch: 214599

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethane	282	320		ug/L		113	75 - 125
Ethylene	271	311		ug/L		115	75 - 125
Methane	153	177		ug/L		116	75 - 125

Lab Sample ID: LCSD 680-214599/26
Matrix: Water
Analysis Batch: 214599

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethane	282	331		ug/L		117	75 - 125	4	30
Ethylene	271	314		ug/L		116	75 - 125	1	30
Methane	153	184		ug/L		120	75 - 125	4	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-213685/1-A
Matrix: Water
Analysis Batch: 214186

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 213685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		09/01/11 16:38	09/07/11 19:37	1
Iron, Dissolved	0.050	U	0.050		mg/L		09/01/11 16:38	09/07/11 19:37	1
Manganese	0.010	U	0.010		mg/L		09/01/11 16:38	09/07/11 19:37	1
Manganese, Dissolved	0.010	U	0.010		mg/L		09/01/11 16:38	09/07/11 19:37	1

Lab Sample ID: LCS 680-213685/2-A
Matrix: Water
Analysis Batch: 214186

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 213685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	1.00	1.04		mg/L		104	75 - 125
Iron, Dissolved	1.00	1.04		mg/L		104	75 - 125

OCT 0 3 2011 EZK TestAmerica Savannah

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-213685/2-A
Matrix: Water
Analysis Batch: 214186

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 213685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Manganese	0.500	0.535		mg/L		107	75 - 125
Manganese, Dissolved	0.500	0.535		mg/L		107	75 - 125

Lab Sample ID: MB 680-213979/1-A
Matrix: Water
Analysis Batch: 214186

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 213979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.351		0.050		mg/L		09/06/11 15:29	09/07/11 17:01	1
Iron, Dissolved	0.351		0.050		mg/L		09/06/11 15:29	09/07/11 17:01	1
Manganese	0.010	U	0.010		mg/L		09/06/11 15:29	09/07/11 17:01	1
Manganese, Dissolved	0.010	U	0.010		mg/L		09/06/11 15:29	09/07/11 17:01	1

Lab Sample ID: LCS 680-213979/2-A
Matrix: Water
Analysis Batch: 214186

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 213979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	1.00	1.12		mg/L		112	75 - 125
Iron, Dissolved	1.00	1.12		mg/L		112	75 - 125
Manganese	0.500	0.571		mg/L		114	75 - 125
Manganese, Dissolved	0.500	0.571		mg/L		114	75 - 125

Lab Sample ID: 680-71927-2 MS
Matrix: Water
Analysis Batch: 214186

Client Sample ID: PSMW-10D-F(0.2)-0811
Prep Type: Dissolved
Prep Batch: 213685

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	150		1.00	149	4	mg/L		161	75 - 125
Iron, Dissolved	150		1.00	149	4	mg/L		161	75 - 125
Manganese	4.0		0.500	4.55	4	mg/L		110	75 - 125
Manganese, Dissolved	4.0		0.500	4.55	4	mg/L		110	75 - 125

Lab Sample ID: 680-71927-2 MSD
Matrix: Water
Analysis Batch: 214186

Client Sample ID: PSMW-10D-F(0.2)-0811
Prep Type: Dissolved
Prep Batch: 213685

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Iron	150		1.00	148	4	mg/L		38	75 - 125	1	20
Iron, Dissolved	150		1.00	148	4	mg/L		38	75 - 125	1	20
Manganese	4.0		0.500	4.51	4	mg/L		103	75 - 125	1	20
Manganese, Dissolved	4.0		0.500	4.51	4	mg/L		103	75 - 125	1	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-213890/5
Matrix: Water
Analysis Batch: 213890

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			09/02/11 17:13	1

OCT 0 3 2011 TestAmerica Savannah

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: MB 680-213890/5
Matrix: Water
Analysis Batch: 213890

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide, Free	5.0	U	5.0		mg/L			09/02/11 17:13	1

Lab Sample ID: LCS 680-213890/6
Matrix: Water
Analysis Batch: 213890

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	230	210		mg/L		91	80 - 120

Lab Sample ID: LCSD 680-213890/32
Matrix: Water
Analysis Batch: 213890

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	230	210		mg/L		91	80 - 120	0	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-214177/1
Matrix: Water
Analysis Batch: 214177

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			09/08/11 10:38	1

Lab Sample ID: LCS 680-214177/4
Matrix: Water
Analysis Batch: 214177

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	50.0	53.5		mg/L		107	85 - 115

Lab Sample ID: 680-71976-8 DU
Matrix: Water
Analysis Batch: 214177

Client Sample ID: GWE-3D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	60		59.6		mg/L		0.04	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-213547/14
Matrix: Water
Analysis Batch: 213547

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			08/31/11 14:44	1

OCT 0 3 2011 EZK

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-213547/15
Matrix: Water
Analysis Batch: 213547

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.494		mg/L		99	90 - 110
Nitrate Nitrite as N	1.00	1.01		mg/L		101	90 - 110
Nitrite as N	0.500	0.513		mg/L		103	90 - 110

Lab Sample ID: MB 680-213677/14
Matrix: Water
Analysis Batch: 213677

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			09/01/11 15:23	1

Lab Sample ID: LCS 680-213677/15
Matrix: Water
Analysis Batch: 213677

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.481		mg/L		96	90 - 110
Nitrate Nitrite as N	1.00	1.00		mg/L		100	90 - 110
Nitrite as N	0.500	0.518		mg/L		104	90 - 110

Lab Sample ID: 680-71976-1 MS
Matrix: Water
Analysis Batch: 213677

Client Sample ID: PSMW-6D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.050	U	0.500	0.473		mg/L		95	90 - 110
Nitrate Nitrite as N	0.050		1.00	1.00		mg/L		100	90 - 110
Nitrite as N	0.050		0.500	0.527		mg/L		105	90 - 110

Lab Sample ID: 680-71976-1 MSD
Matrix: Water
Analysis Batch: 213677

Client Sample ID: PSMW-6D-0811
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate as N	0.050	U	0.500	0.474		mg/L		95	90 - 110	0	10
Nitrate Nitrite as N	0.050		1.00	1.00		mg/L		100	90 - 110	0	10
Nitrite as N	0.050		0.500	0.527		mg/L		105	90 - 110	0	10

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-214454/1
Matrix: Water
Analysis Batch: 214454

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			09/12/11 09:26	1

OCT 03 2011

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: LCS 680-214454/2
Matrix: Water
Analysis Batch: 214454

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	20.0	20.0		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-214031/1
Matrix: Water
Analysis Batch: 214031

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			09/03/11 09:11	1

Lab Sample ID: LCS 680-214031/2
Matrix: Water
Analysis Batch: 214031

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	20.2		mg/L		101	80 - 120

Lab Sample ID: 680-71927-2 MS
Matrix: Water
Analysis Batch: 214031

Client Sample ID: PSMW-10D-F(0.2)-0811
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Dissolved Organic Carbon	3.4		20.0	23.0		mg/L		98	80 - 120

Lab Sample ID: 680-71927-2 MSD
Matrix: Water
Analysis Batch: 214031

Client Sample ID: PSMW-10D-F(0.2)-0811
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	3.4		20.0	23.0		mg/L		98	80 - 120	0	20

Method: 415.1 - TOC

Lab Sample ID: MB 680-213697/2
Matrix: Water
Analysis Batch: 213697

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			09/01/11 08:15	1

Lab Sample ID: LCS 680-213697/4
Matrix: Water
Analysis Batch: 213697

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	20.0	19.3		mg/L		97	80 - 120

OCT 0 3 2011 EZK

Method: 415.1 - TOC (Continued)

Lab Sample ID: MB 680-214025/2
Matrix: Water
Analysis Batch: 214025

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			09/03/11 09:21	1

Lab Sample ID: LCS 680-214025/4
Matrix: Water
Analysis Batch: 214025

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	20.0	19.8		mg/L		99	80 - 120

OCT 0 3 2011 EZ K

GC/MS VOA

Analysis Batch: 213772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	8260B	
680-71927-3	PSMW-10D-0811-EB	Total/NA	Water	8260B	
680-71927-4	3Q11 SUPP Trip Blank #1	Total/NA	Water	8260B	
LCS 680-213772/9	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-213772/11	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-213772/12	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 214058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-1	PSMW-6D-0811	Total/NA	Water	8260B	
680-71976-1 MS	PSMW-6D-0811	Total/NA	Water	8260B	
680-71976-1 MSD	PSMW-6D-0811	Total/NA	Water	8260B	
680-71976-5	GWE-1D-0811-AD	Total/NA	Water	8260B	
680-71976-8	GWE-3D-0811	Total/NA	Water	8260B	
680-71976-9	3Q11 SUPP Trip Blank #2	Total/NA	Water	8260B	
LCS 680-214058/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-214058/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-214058/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 214116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-3	GWE-1D-0811	Total/NA	Water	8260B	
680-71976-6	GWE-2D-0811	Total/NA	Water	8260B	
LCS 680-214116/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-214116/4	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-214116/6	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 213857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	RSK-175	
LCS 680-213857/14	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-213857/15	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-213857/16	Method Blank	Total/NA	Water	RSK-175	

Analysis Batch: 214599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-1	PSMW-6D-0811	Total/NA	Water	RSK-175	
680-71976-3	GWE-1D-0811	Total/NA	Water	RSK-175	
680-71976-6	GWE-2D-0811	Total/NA	Water	RSK-175	
680-71976-8	GWE-3D-0811	Total/NA	Water	RSK-175	
LCS 680-214599/12	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-214599/26	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-214599/13	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 213685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total Recoverable	Water	3005A	
680-71927-2	PSMW-10D-F(0.2)-0811	Dissolved	Water	3005A	

Metals (Continued)

Prep Batch: 213685 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-2 MS	PSMW-10D-F(0.2)-0811	Dissolved	Water	3005A	
680-71927-2 MSD	PSMW-10D-F(0.2)-0811	Dissolved	Water	3005A	
LCS 680-213685/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-213685/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 213979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-1	PSMW-6D-0811	Total Recoverable	Water	3005A	
680-71976-2	PSMW-6D-F(0.2)-0811	Dissolved	Water	3005A	
680-71976-3	GWE-1D-0811	Total Recoverable	Water	3005A	
680-71976-4	GWE-1D-F(0.2)-0811	Dissolved	Water	3005A	
680-71976-6	GWE-2D-0811	Total Recoverable	Water	3005A	
680-71976-7	GWE-2D-F(0.2)-0811	Dissolved	Water	3005A	
680-71976-8	GWE-3D-0811	Total Recoverable	Water	3005A	
680-71976-10	GWE-3D-F(0.2)-0811	Dissolved	Water	3005A	
LCS 680-213979/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-213979/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 214186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total Recoverable	Water	6010B	213685
680-71927-2	PSMW-10D-F(0.2)-0811	Dissolved	Water	6010B	213685
680-71927-2 MS	PSMW-10D-F(0.2)-0811	Dissolved	Water	6010B	213685
680-71927-2 MSD	PSMW-10D-F(0.2)-0811	Dissolved	Water	6010B	213685
680-71976-1	PSMW-6D-0811	Total Recoverable	Water	6010B	213979
680-71976-2	PSMW-6D-F(0.2)-0811	Dissolved	Water	6010B	213979
680-71976-3	GWE-1D-0811	Total Recoverable	Water	6010B	213979
680-71976-4	GWE-1D-F(0.2)-0811	Dissolved	Water	6010B	213979
680-71976-6	GWE-2D-0811	Total Recoverable	Water	6010B	213979
680-71976-7	GWE-2D-F(0.2)-0811	Dissolved	Water	6010B	213979
680-71976-8	GWE-3D-0811	Total Recoverable	Water	6010B	213979
680-71976-10	GWE-3D-F(0.2)-0811	Dissolved	Water	6010B	213979
LCS 680-213685/2-A	Lab Control Sample	Total Recoverable	Water	6010B	213685
LCS 680-213979/2-A	Lab Control Sample	Total Recoverable	Water	6010B	213979
MB 680-213685/1-A	Method Blank	Total Recoverable	Water	6010B	213685
MB 680-213979/1-A	Method Blank	Total Recoverable	Water	6010B	213979

General Chemistry

Analysis Batch: 213547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	353.2	
LCS 680-213547/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-213547/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 213677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-1	PSMW-6D-0811	Total/NA	Water	353.2	
680-71976-1 MS	PSMW-6D-0811	Total/NA	Water	353.2	
680-71976-1 MSD	PSMW-6D-0811	Total/NA	Water	353.2	
680-71976-3	GWE-1D-0811	Total/NA	Water	353.2	
680-71976-6	GWE-2D-0811	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 213677 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-8	GWE-3D-0811	Total/NA	Water	353.2	
LCS 680-213677/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-213677/14	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 213697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	415.1	
LCS 680-213697/4	Lab Control Sample	Total/NA	Water	415.1	
MB 680-213697/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 213890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	310.1	
680-71976-1	PSMW-6D-0811	Total/NA	Water	310.1	
680-71976-3	GWE-1D-0811	Total/NA	Water	310.1	
680-71976-6	GWE-2D-0811	Total/NA	Water	310.1	
680-71976-8	GWE-3D-0811	Total/NA	Water	310.1	
LCS 680-213890/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-213890/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-213890/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 214025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71976-1	PSMW-6D-0811	Total/NA	Water	415.1	
680-71976-3	GWE-1D-0811	Total/NA	Water	415.1	
680-71976-6	GWE-2D-0811	Total/NA	Water	415.1	
680-71976-8	GWE-3D-0811	Total/NA	Water	415.1	
LCS 680-214025/4	Lab Control Sample	Total/NA	Water	415.1	
MB 680-214025/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 214031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-2	PSMW-10D-F(0.2)-0811	Dissolved	Water	415.1	
680-71927-2 MS	PSMW-10D-F(0.2)-0811	Dissolved	Water	415.1	
680-71927-2 MSD	PSMW-10D-F(0.2)-0811	Dissolved	Water	415.1	
680-71976-2	PSMW-6D-F(0.2)-0811	Dissolved	Water	415.1	
680-71976-4	GWE-1D-F(0.2)-0811	Dissolved	Water	415.1	
680-71976-7	GWE-2D-F(0.2)-0811	Dissolved	Water	415.1	
680-71976-10	GWE-3D-F(0.2)-0811	Dissolved	Water	415.1	
LCS 680-214031/2	Lab Control Sample	Dissolved	Water	415.1	
MB 680-214031/1	Method Blank	Dissolved	Water	415.1	

Analysis Batch: 214177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	325.2	
680-71976-1	PSMW-6D-0811	Total/NA	Water	325.2	
680-71976-3	GWE-1D-0811	Total/NA	Water	325.2	
680-71976-6	GWE-2D-0811	Total/NA	Water	325.2	
680-71976-8	GWE-3D-0811	Total/NA	Water	325.2	
680-71976-8 DU	GWE-3D-0811	Total/NA	Water	325.2	
LCS 680-214177/4	Lab Control Sample	Total/NA	Water	325.2	
MB 680-214177/1	Method Blank	Total/NA	Water	325.2	

General Chemistry (Continued)

Analysis Batch: 214454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-71927-1	PSMW-10D-0811	Total/NA	Water	375.4	
680-71976-1	PSMW-6D-0811	Total/NA	Water	375.4	
680-71976-3	GWE-1D-0811	Total/NA	Water	375.4	
680-71976-6	GWE-2D-0811	Total/NA	Water	375.4	
680-71976-8	GWE-3D-0811	Total/NA	Water	375.4	
LCS 680-214454/2	Lab Control Sample	Total/NA	Water	375.4	
MB 680-214454/1	Method Blank	Total/NA	Water	375.4	

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-10D-0811

Lab Sample ID: 680-71927-1
Matrix: Water

Date Collected: 08/30/11 15:00
Date Received: 08/31/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	213772	09/02/11 20:05	AJMC	TAL SAV
Total/NA	Analysis	RSK-175		1	213857	09/02/11 20:10	SMC	TAL SAV
Total Recoverable	Prep	3005A			213685	09/01/11 16:38	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1	214186	09/07/11 21:37	BCB	TAL SAV
Total/NA	Analysis	353.2		1	213547	08/31/11 14:55	JR	TAL SAV
Total/NA	Analysis	415.1		1	213697	09/01/11 10:15	TH	TAL SAV
Total/NA	Analysis	310.1		1	213890	09/02/11 19:00	MSJ	TAL SAV
Total/NA	Analysis	325.2		5	214177	09/08/11 11:20	JR	TAL SAV
Total/NA	Analysis	375.4		100	214454	09/12/11 10:32	JR	TAL SAV

Client Sample ID: PSMW-10D-F(0.2)-0811

Lab Sample ID: 680-71927-2
Matrix: Water

Date Collected: 08/30/11 15:00
Date Received: 08/31/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			213685	09/01/11 16:42	RAM	TAL SAV
Dissolved	Analysis	6010B		1	214186	09/07/11 21:42	BCB	TAL SAV
Dissolved	Analysis	415.1		1	214031	09/03/11 09:11	TH	TAL SAV

Client Sample ID: PSMW-10D-0811-EB

Lab Sample ID: 680-71927-3
Matrix: Water

Date Collected: 08/30/11 15:55
Date Received: 08/31/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	213772	09/02/11 17:30	AJMC	TAL SAV

Client Sample ID: 3Q11 SUPP Trip Blank #1

Lab Sample ID: 680-71927-4
Matrix: Water

Date Collected: 08/30/11 00:00
Date Received: 08/31/11 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	213772	09/02/11 17:52	AJMC	TAL SAV

Client Sample ID: PSMW-6D-0811

Lab Sample ID: 680-71976-1
Matrix: Water

Date Collected: 08/31/11 10:20
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	214058	09/06/11 19:21	AJMC	TAL SAV
Total/NA	Analysis	RSK-175		1	214599	09/13/11 15:24	SMC	TAL SAV
Total Recoverable	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1	214186	09/07/11 18:36	BCB	TAL SAV
Total/NA	Analysis	353.2		1	213677	09/01/11 15:25	JR	TAL SAV

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: PSMW-6D-0811

Lab Sample ID: 680-71976-1
Matrix: Water

Date Collected: 08/31/11 10:20
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	213890	09/02/11 17:30	MSJ	TAL SAV
Total/NA	Analysis	415.1		1	214025	09/03/11 14:37	TH	TAL SAV
Total/NA	Analysis	325.2		5	214177	09/08/11 11:20	JR	TAL SAV
Total/NA	Analysis	375.4		20	214454	09/12/11 10:32	JR	TAL SAV

Client Sample ID: PSMW-6D-F(0.2)-0811

Lab Sample ID: 680-71976-2
Matrix: Water

Date Collected: 08/31/11 10:20
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Dissolved	Analysis	6010B		1	214186	09/07/11 18:41	BCB	TAL SAV
Dissolved	Analysis	415.1		1	214031	09/03/11 09:11	TH	TAL SAV

Client Sample ID: GWE-1D-0811

Lab Sample ID: 680-71976-3
Matrix: Water

Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	214116	09/07/11 13:03	AJMC	TAL SAV
Total/NA	Analysis	RSK-175		1	214599	09/13/11 15:37	SMC	TAL SAV
Total Recoverable	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1	214186	09/07/11 18:46	BCB	TAL SAV
Total/NA	Analysis	353.2		1	213677	09/01/11 15:29	JR	TAL SAV
Total/NA	Analysis	310.1		1	213890	09/02/11 17:39	MSJ	TAL SAV
Total/NA	Analysis	415.1		1	214025	09/03/11 14:53	TH	TAL SAV
Total/NA	Analysis	325.2		1	214177	09/08/11 11:02	JR	TAL SAV
Total/NA	Analysis	375.4		10	214454	09/12/11 10:15	JR	TAL SAV

Client Sample ID: GWE-1D-F(0.2)-0811

Lab Sample ID: 680-71976-4
Matrix: Water

Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Dissolved	Analysis	6010B		1	214186	09/07/11 19:01	BCB	TAL SAV
Dissolved	Analysis	415.1		1	214031	09/03/11 09:11	TH	TAL SAV

OCT 0 3 2011

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: GWE-1D-0811-AD

Lab Sample ID: 680-71976-5
Matrix: Water
Date Collected: 08/31/11 11:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	214058	09/06/11 18:36	AJMC	TAL SAV

Client Sample ID: GWE-2D-0811

Lab Sample ID: 680-71976-6
Matrix: Water
Date Collected: 08/31/11 13:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	214116	09/07/11 13:25	AJMC	TAL SAV
Total/NA	Analysis	RSK-175		1	214599	09/13/11 15:49	SMC	TAL SAV
Total Recoverable	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1	214186	09/07/11 19:06	BCB	TAL SAV
Total/NA	Analysis	353.2		1	213677	09/01/11 15:30	JR	TAL SAV
Total/NA	Analysis	310.1		1	213890	09/02/11 17:48	MSJ	TAL SAV
Total/NA	Analysis	415.1		1	214025	09/03/11 15:10	TH	TAL SAV
Total/NA	Analysis	325.2		2	214177	09/08/11 11:10	JR	TAL SAV
Total/NA	Analysis	375.4		10	214454	09/12/11 10:22	JR	TAL SAV

Client Sample ID: GWE-2D-F(0.2)-0811

Lab Sample ID: 680-71976-7
Matrix: Water
Date Collected: 08/31/11 13:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Dissolved	Analysis	6010B		1	214186	09/07/11 19:12	BCB	TAL SAV
Dissolved	Analysis	415.1		1	214031	09/03/11 09:11	TH	TAL SAV

Client Sample ID: GWE-3D-0811

Lab Sample ID: 680-71976-8
Matrix: Water
Date Collected: 08/31/11 14:40
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	214058	09/06/11 18:58	AJMC	TAL SAV
Total/NA	Analysis	RSK-175		1	214599	09/13/11 16:02	SMC	TAL SAV
Total Recoverable	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Total Recoverable	Analysis	6010B		1	214186	09/07/11 19:17	BCB	TAL SAV
Total/NA	Analysis	353.2		1	213677	09/01/11 15:31	JR	TAL SAV
Total/NA	Analysis	310.1		1	213890	09/02/11 17:58	MSJ	TAL SAV
Total/NA	Analysis	415.1		1	214025	09/03/11 15:24	TH	TAL SAV
Total/NA	Analysis	325.2		1	214177	09/08/11 11:02	JR	TAL SAV
Total/NA	Analysis	375.4		5	214454	09/12/11 09:59	JR	TAL SAV

OCT 0 3 2011

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

Client Sample ID: 3Q11 SUPP Trip Blank #2
Lab Sample ID: 680-71976-9
Date Collected: 08/31/11 00:00
Matrix: Water
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	214058	09/06/11 16:23	AJMC	TAL SAV

Client Sample ID: GWE-3D-F(0.2)-0811
Lab Sample ID: 680-71976-10
Date Collected: 08/31/11 14:40
Matrix: Water
Date Received: 09/01/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			213979	09/06/11 15:29	RAM	TAL SAV
Dissolved	Analysis	6010B		1	214186	09/07/11 19:22	BCB	TAL SAV
Dissolved	Analysis	415.1		1	214031	09/03/11 09:11	TH	TAL SAV

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

OCT 0 3 2011

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/30/11	COC No:
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier: FedEx	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 680-71927
St. Louis, MO 63110	Calendar (C) or Work Days (W)			21562682.00010
(314) 429-0100 Phone	TAT if different from Below Standard			
(314) 429-0462 FAX	☐ 2 weeks			SDG No.
Project Name: 3Q11 Supplemental GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1		Sample Specific Notes:
PSMW-10D -0811	8/30/11	1500	G	Water	12		3	1	1	1	3	2	1				
PSMW-10D -F(0.2)-0811	↓	1500	G	Water	2	X								1	1		
PSMW-10D-0811-EB	↓	1555	G	Water	3		3										
3Q11 SUPP Trip Blank # 1	8/30/11	—	—	Water	3		3										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	1	4	1	1	1	3,1	2	4	2	

Possible Hazard Identification
☐ *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: Level 4 Data Package

Temp 1.6°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	URS	8/30/11 1700	[signature]	TA	8/30/2011 1700
[signature]	TA	8/30/11 1738	Ruth G Daughtry	TASAV	08.31.11 0937

OCT 0 3 2011 [initials]

13 12 9 8 7 6 5 4 1

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Dave Palmer	Site Contact: Nathan McNurlen	Date: 8/31/11	COC No: 2
URS Corporation	Tel/Fax: (314) 743-4154	Lab Contact: Lidya Gulizia	Carrier: FedEx	1 of 1 COCs
1001 Highlands Plaza Drive West, Suite 300	Analysis Turnaround Time			Job No. 680-71976 21562682.00010
St. Louis, MO 63110	Calendar (C) or Work Days (W)			SDG No.
(314) 429-0100 Phone	TAT if different from Below Standard			
(314) 429-0462 FAX	☐ 2 weeks			
Project Name: 3Q11 Supplemental GW Sampling	☐ 1 week			
Site: Solutia WG Krummrich Facility	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260	Total Fe/Mn by 6010B	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Methane by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010B	DOC by 415.1	Sample Specific Notes:
PSMW-6D -0811	8/31/11	1020	G	Water	12		3	1	1	1	3	2	1			
PSMW-6D -F(0.2)-0811		1020	G	Water	2	X								1	1	
PSMW-6D-0811-MS		1020	G	Water	3		3									
PSMW-6D-0811-MSD		1020	G	Water	3		3									
GWE-1D-0811		1140	G	Water	12		3	1	1	1	3	2	1			
GWE-1D-F(0.2)-0811		1140	G	Water	2	X	2							1	1	
GWE-1D-0811-AD		1140	G	Water	3		3									
GWE-2D-0811		1340	G	Water	12		3	1	1	1	3	2	1			
GWE-2D-F(0.2)-0811		1340	G	Water	2	X								1	1	
GWE-3D-0811		1440	G	Water	12		3	1	1	1	3	2	1			
3Q11 SUPP Trip Blank # 2		—	—	Water	3		3									
GWE-3D-F(0.2)-0811		1440	G	Water	2	X								1	1	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	1	4	1	1	1	3,1	2	4	2

Possible Hazard Identification
☐ 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: Level 4 Data Package

Temp
3.0°C, 3.6°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	URS	8/31/11 1630	[signature]	TA	8/31/11 1630
Relinquished by: [signature]	Company: TA	Date/Time: 8/31/11 1724	Received by: [signature] TA SAV	Company:	Date/Time: 09-01-11 @ 0923
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

OCT 0 3 2011 E2K

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-71927-1
SDG Number: KPS066

Login Number: 71927
List Number: 1
Creator: Daughtry, Beth

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	Insufficient volume received for MS/MSD.
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

OCT 0 3 2011 EJK

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-71927-1
SDG Number: KPS066

Login Number: 71976
List Number: 1
Creator: Daughtry, Beth

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2 coolers rec'd on ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0 and 3.6 C
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?	False	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

OCT 0 3 2011 EJL

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Supplemental GW - 3Q11

TestAmerica Job ID: 680-71927-1
SDG: KPS066

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

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