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SOLUTIA

Solutions for a better life.

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

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Tel 314-674-1000

December 12, 2008

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

Re: PCB Groundwater Quality Assessment Program
3rd Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the PCB Groundwater Quality Assessment Program 3rd Quarter 2008 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL. This is the first such report, this program having replaced the earlier PCB Mobility and Migration Investigation Program.

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

PCB Groundwater Quality Assessment Program
3rd Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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* Please group all CDs going to 575 Maryville Centre to Jerry Rinaldi's attention.
** Please group all CDs going to 500 Monsanto Avenue to Richard Williams' attention.

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3RD QUARTER 2008
DATA REPORT

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM

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

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

December 2008

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
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Project # 21562047.00003

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1.0 INTRODUCTION

This report presents the results of the 3rd Quarter 2008 (3Q08) sampling event performed at the Solutia Inc. (Solutia) W.G. Krummrich Facility located in Sauget, Illinois (Site). This sampling event was the first event conducted in accordance with the monitoring activities as outlined in the PCB Groundwater Quality Assessment Program Work Plan (Solutia 2008). Prior sampling events completed at the Site through 2Q08 were conducted in accordance with the PCB Mobility and Migration Investigation Work Plan (Solutia 2005). The Site location map is presented in **Figure 1**.

The PCB Groundwater Quality Assessment Program well network consists of ten monitoring wells as follows (**Figure 2**):

- Two wells are located in the source area, PMAMW04S and PMAMW04D (formerly designated PSMW02), and are screened in the Shallow Hydrogeologic Unit (SHU) and Deep Hydrogeologic Unit (DHU), respectively. PMAMW04D is a former plume stability monitoring well (PSMW-2) that was typically sampled as part of the former Plume Stability Monitoring Program. This well was not sampled during the 3Q08 sampling event; however it will be sampled in quarterly monitoring events in the future.

- Three well clusters are located downgradient of the source area and outside of the 25 mg/kg total PCB isoconcentration line in soil, PMAMW01S/M, PMAMW02S/M and PMAMW03S/M. These clusters include wells screened in the SHU (designated with an "S") and MHU (designated with an "M").

- Two individual wells designated PMAMW05M and PMAMW06D located downgradient of the source area. PMAMW05 is screened in the MHU, while PMAMW06 is screened in the DHU. [1]

A total of 11 groundwater samples (including three filtered samples) and one DNAPL sample were collected from the nine monitoring wells sampled during the 3Q08 sampling event. Groundwater samples were collected from each well except PMAMW04S, from which a DNAPL sample was collected (PCB analysis). Groundwater samples were also collected from wells PMAMW05M and PMAMW06D for filtered PCB analysis. A sample for dissolved PCB analysis was collected from PMAMW05M using a 0.45 micron filter. Two samples for dissolved PCB analysis were collected form PMAMW06D using 0.45 micron and 10.0 micron filters. Going forward, only unfiltered samples will be collected.

The field sampling activities were conducted in accordance with the procedures outlined in the PCB Groundwater Quality Assessment Program Work Plan including the collection of appropriate quality

[1] PMAMW05M and PMAMW06D were installed as the result of a push sampling effort that took place in June 2008. Details of the push sampling effort, well installation and well development are included as **Appendix A**.

assurance and quality control (QA/QC) samples. The following section summarizes the field investigative procedures.

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted the 3Q08 PCB Groundwater Quality Assessment Program field activities from August 18 through August 27, 2008.

Groundwater Level Measurements - Static groundwater levels were measured and the presence of non-aqueous phase liquids (NAPL) was evaluated on August 19, 2008, using an oil/water interface probe at the well locations. Groundwater depth measurements were collected from the available existing wells (e.g., GM-, K- , PSMW- and PMA-series) and piezometers clusters (installed for the Sauget Area 2 RI/FS and the WGK CA-750 Environmental Indicator projects) specified in the PCB Groundwater Quality Assessment Program Work Plan **(Figure 3**).

Oil/water interface probe measurements did not indicate the presence of free product within any of the ten monitoring wells comprising the PCB Groundwater Quality Assessment Program well network. However, based on historic observations, dense non-aqueous phase liquid (DNAPL) has historically been observed in monitoring well PMAMW04S. To further investigate the potential presence of NAPL within this well, a weighted string was lowered into the well. Upon removal, DNAPL was observed adhering to the string a depth below the groundwater surface.

Well gauging information for the 3Q08 event is presented in **Table 1**. A groundwater potentiometric surface map of the MHU/DHU is presented in **Figure 3**. This map is based on water level data from wells screened in the MHU and DHU, because these hydrogeologic units are the primary migration pathway for constituents present in groundwater at the WGK Facility.

Groundwater Quality Sampling - Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, a submersible pump attached to polyethylene tubing was slowly lowered down the well and secured so that the pump intake was set near the middle or slightly above the middle of the screened interval. The outlet of the polyethylene tubing was connected to a flow-through cell which discharged into a 5-gallon plastic bucket. Pump flow rates were started at approximately 200 ml/min during purging. Water level measurements were initially recorded approximately every two minutes to assess whether significant drawdown was occurring. If significant drawdown occurred, the flow rates were scaled back. Drawdown was monitored to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen (approximately 0.62 ft). Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Field measurements are presented on the groundwater purging and sampling forms, in **Appendix B.** Groundwater was considered stable when the following criteria were met over a minimum of three successive flow-through cell volumes:

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- pH - ± 0.2 units
- Specific Conductance - ± 3%
- Dissolved Oxygen (DO) - ± 10% or ± 2 mg/L whichever is greater
- Oxidation-Reduction Potential (ORP)- ± 20 mV

Once stabilization was achieved, samples were typically collected at a flow rate no higher than that at which stabilization was achieved and consistent with the work plan. For wells in which both total and dissolved PCBs were analyzed, dissolved PCB samples were collected first using 0.45 and 10.0 micron filters followed by unfiltered samples.

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%, complying with the work plan. All samples were submitted to TestAmerica facility in Savannah, Georgia for analysis.

Immediately following collection each sample was labeled. The sample identification system used for each sample involved the following nomenclature "AAAMW#-BBBB-CCC" where:

"AAAA" denotes "PCB Manufacturing Area (PMA)" and "MW-#" will denote "Monitoring Well Number":

- **PMA MW # - Monitoring Well Purpose, Location and Number**

"BBBB" will denote

- **MMYY – Month and year of sampling quarter**, **e.g.: Third quarter (September), first year (2008), 0908**

"CCC" will denote QA/QC sample

- **EB- equipment blank**
- **AD- analytical duplicate**
- **MS or MSD – Matrix Spike or Matrix Spike Duplicate**

Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). COC forms are included in **Appendix C**.

Samples were placed on ice inside a cooler immediately following sampling. Sample containers were packed in such a way as to help prevent breakage. Samples were shipped in coolers, each containing

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ice to maintain inside temperature at approximately 4°C. Sample coolers were sealed between the lid and sides of the cooler with a custody seal prior to shipment. The samples were shipped to the TestAmerica facility in Savannah, Georgia by means of DHL Overnight delivery service.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for PCBs using Method 680.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness as described in the PCB Groundwater Quality Assessment Program 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 D**. Laboratory result pages (i.e. Form 1's) along with data validation review sheets are included in **Appendix E**.

A total of 13 samples (eight investigative groundwater samples, one analytical duplicate, one MS/MSD pair, one equipment blank, and one DNAPL sample) were prepared and analyzed by Test America for PCBs. The results for the various analyses were submitted as sample delivery groups (SDGs) KPM022, KPM023, KPM024, and KPM025. The samples contained in each SDG are listed below.

KPM022	KPM023	KPM024	KPM025
PMAMW06D-0808	PMAMW05M-0808	PMAMW01S-0808	PMAMW04S-0808-DNAPL
		PMAMW01M-0808	
		PMAMW02S-0808	
		PMAMW02S-0808-EB	
		PMAMW02M-0808	
		PMAMW02M-0808-AD	
		PMAMW03S-0808	
		PMAMW03M-0808	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA 1999) and the PCB Groundwater Quality Assessment Program Work Plan (Solutia 2008). Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for 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 (J/UJ) data, was 100 percent.

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5.0 OBSERVATIONS

This section presents a brief summary of the groundwater analytical results from the 3Q08 PCB Groundwater Quality Assessment sampling event. A summary of the laboratory results is provided in **Table 2** and the entire laboratory data package is proved in **Appendix E.**

Shallow Hydrogeologic Unit

A groundwater sample was not collected from source area SHU monitoring well PMAMW04S due to the presence of DNAPL within the well. A DNAPL sample was collected from this well and total PCBs were detected at a concentration of 311,400,000 ug/kg. Historically, measurable DNAPL has been observed in PMAMW04S during past events conducted as part of the PCB Mobility and Migration Investigation.

PCBs were detected in one of three downgradient PCB Groundwater Quality Assessment Program SHU monitoring wells (PMAMW3S) at a concentration of 0.26 ug/L. PCBs were not detected at the remaining two downgradient monitoring wells sampled (PMAMW01S and PMAMW02S). These data indicate that PCBs in the SHU attenuated over the 300 to 400 ft distance between PMAMW04S and the three downgradient monitoring wells.

Middle/Deep Hydrogeologic Unit

Monitoring well PMAMW04D (formerly designated PSMW02) located in the Former PCB Manufacturing Area was not sampled during the 3Q08 sampling event. Total unfiltered PCBs were detected in four of the five downgradient monitoring wells at concentrations of 0.38 ug/L (PMAMW01M), 4.3 ug/L (PMAMW02M)/(4.0 ug/L duplicate), 1.3 ug/L (PMAMW03M), and 0.21 ug/L (ND with 0.45 micron filter; 0.12 ug/L with 10.0 micron filter) (PMAMW06D). Total and dissolved PCBs were not detected in the groundwater samples collected from PMAMW05M.

Figures 4 and **5** display the PCB results (unfiltered and filtered), for the 3Q08 sampling event for the SHU and MHU/DHU, respectively.

The 3Q08 sampling event is the first event conducted under the PCB Groundwater Quality Assessment Program. After four quarters of sampling, subsequent quarterly groundwater monitoring reports will assess plume stability using Mann-Kendall trend analysis to determine concentration trends with time. After eight quarters of sampling, the Mann-Whitney U Test will be performed to determine whether or not concentrations in the second four quarters were higher or lower than the first four quarters. Linear regression analysis will be done for the eight quarters of data provided the data distribution allows the use of parametric statistical analysis.

6.0 REFERENCES

Solutia Inc, 2005. PCB Mobility and Migration Investigation Plan, W.G. Krummrich Facility, Sauget, IL, Prepared by URS Corporation, October 2005.

Solutia Inc, 2008. PCB Groundwater Quality Assessment Program, W.G. Krummrich Facility, Sauget, IL, Prepared by URS Corporation, May 2008.

U.S. Environmental Protection Agency (USEPA), 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review.

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Figures

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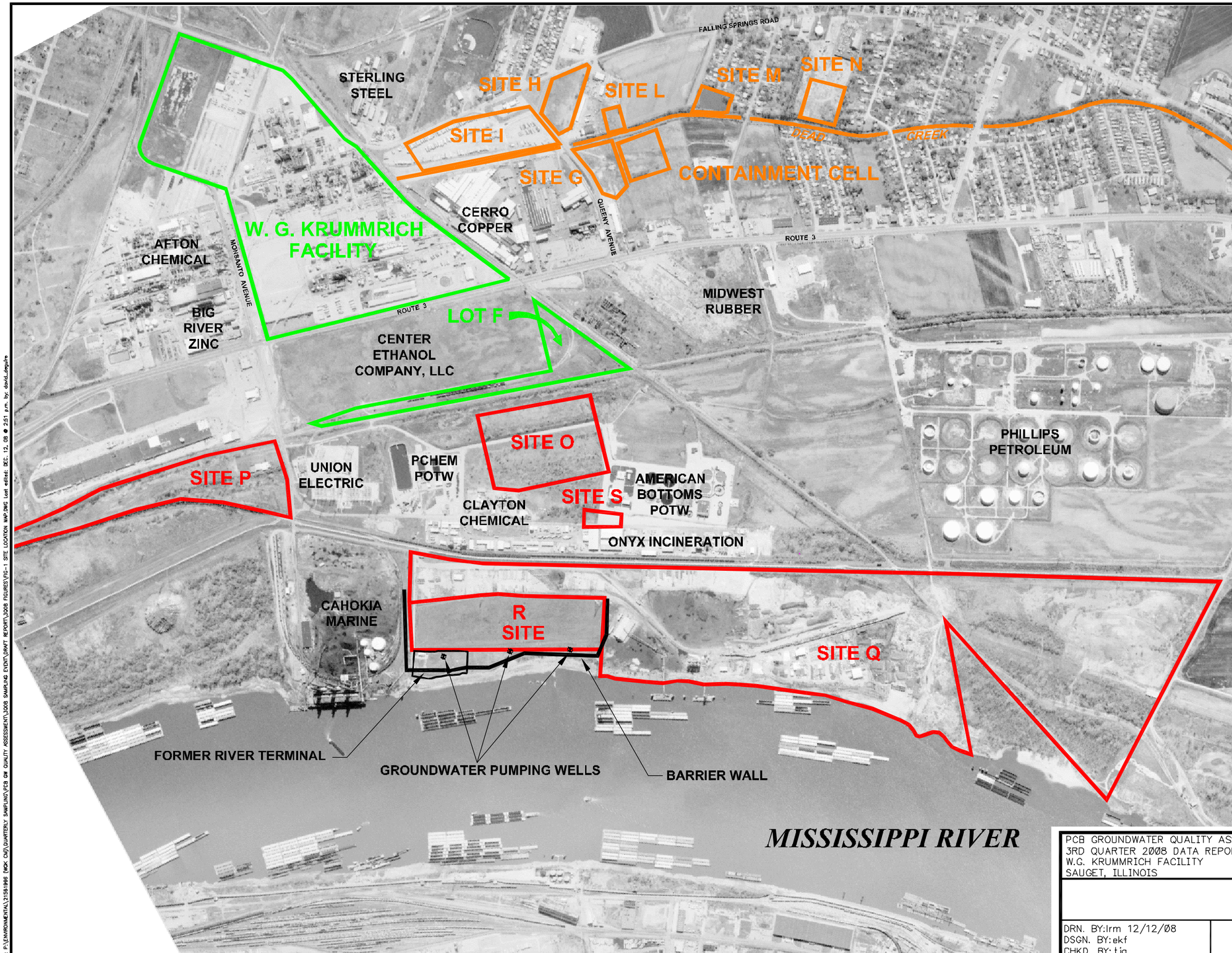


LEGEND

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

0 1000
SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
3RD QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562047

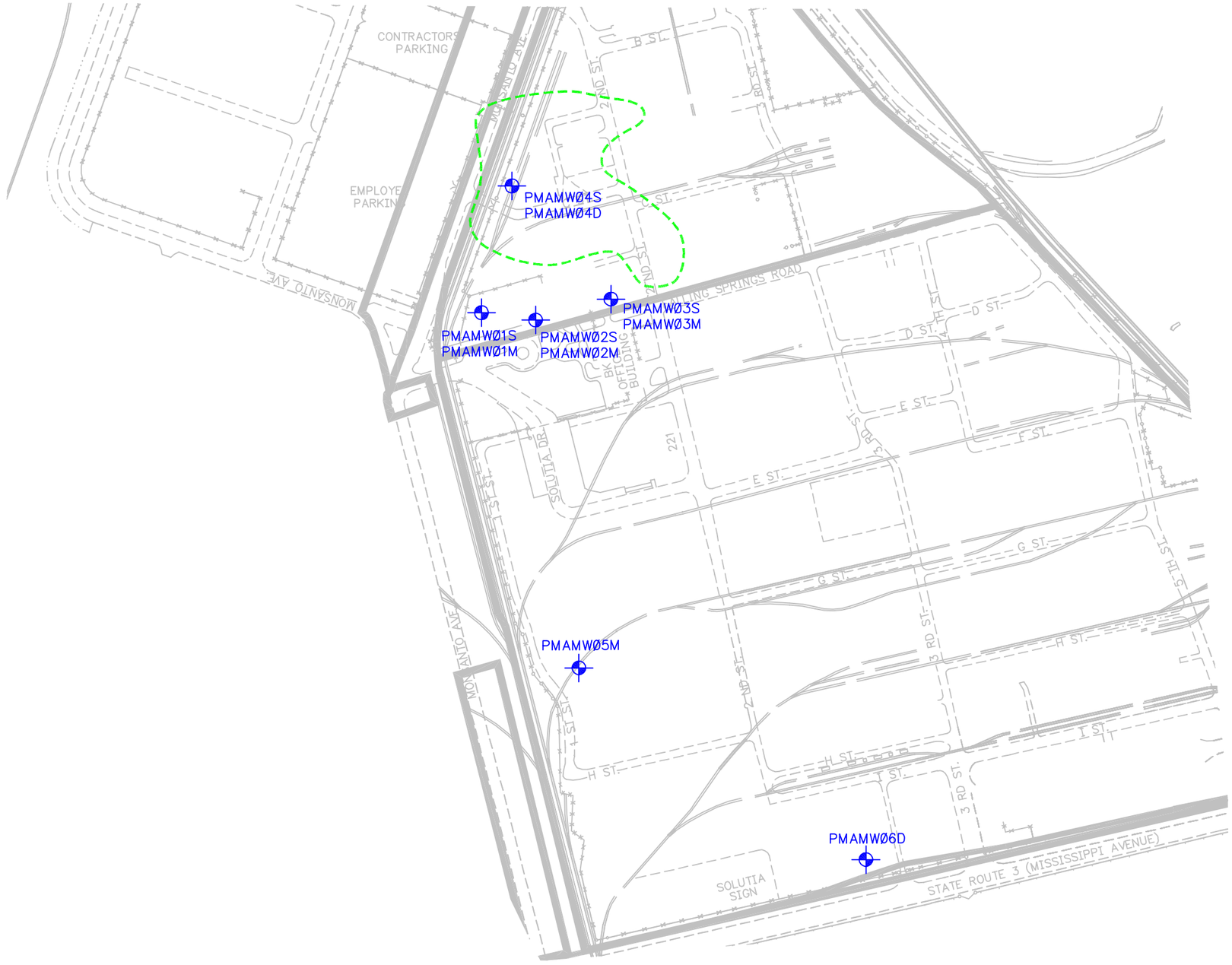
URS

DRN. BY: lrm 12/12/08
DSGN. BY: ekf
CHKD. BY: tja

Site Location Map

FIG. NO. 1

File: P:\ENVIRONMENTAL\21561986 (NOK CM)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\2008 SAMPLING EVENT\DRAFT REPORT\2008 FIGURES\FIG-1 SITE LOCATION MAP.DWG Last edited: DEC. 12, 08 @ 2:51 p.m. by: david_dagupire



LEGEND

MONITORING WELL LOCATION

APPROXIMATE 25 mg/kg TOTAL PCB CONTOUR LINE (SOIL)

N E S W

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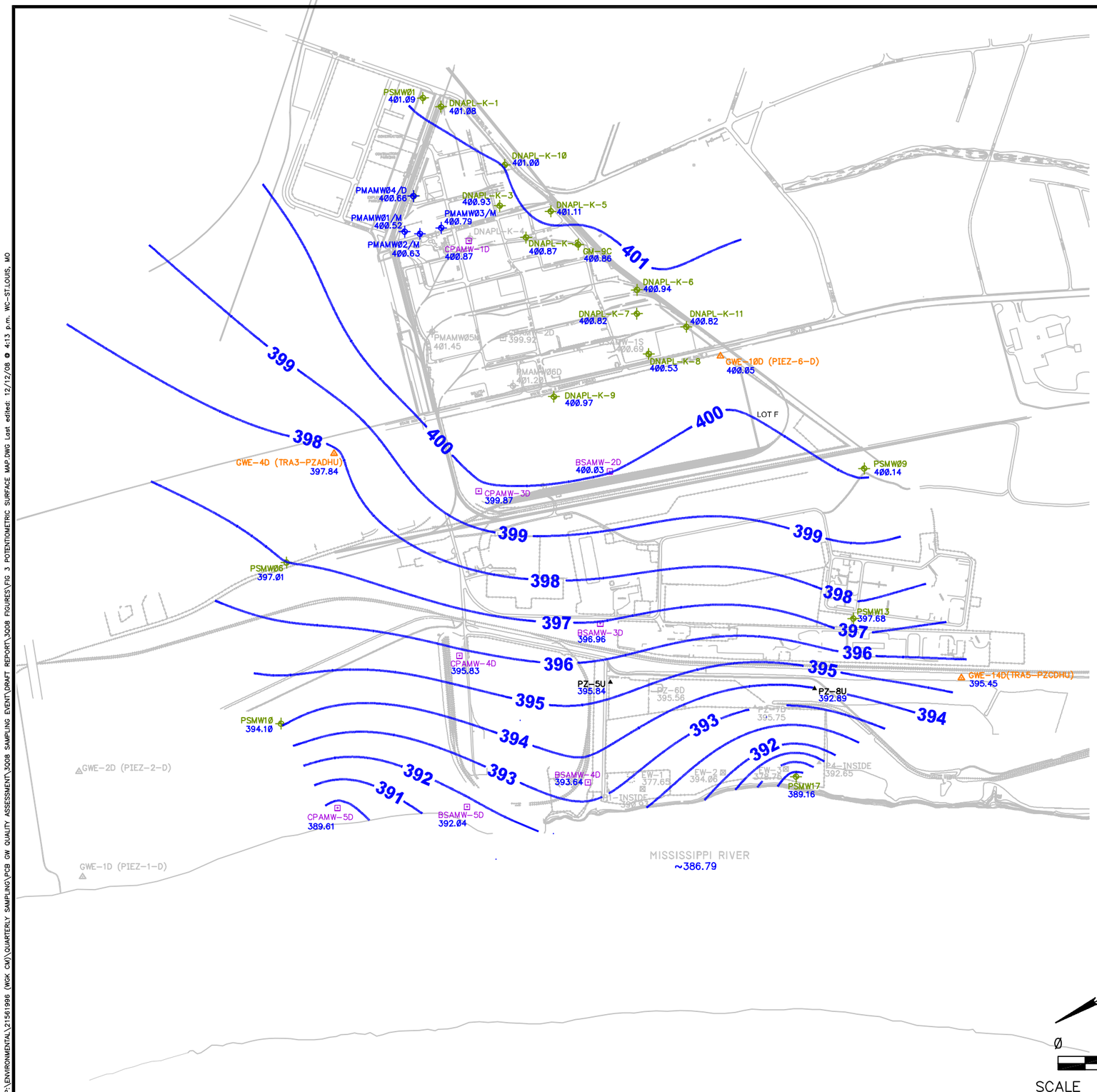
PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM 3RD QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562047
URS	
DRN. BY: lrm 12/12/08 DSGN. BY: ekf CHKD. BY: ekf	Former PCB Manufacturing Area Monitoring Well Locations
	FIG. NO. 2

File: P:\ENVIRONMENTAL\21561996 (WGK CM)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\3Q08 SAMPLING EVENT\DRAFT REPORT\3Q08 FIGURES\FIG-2 FORMER PCB MANUFACTURING AREA MW LOCATIONS.DWG Last edited: DEC. 12, 08 @ 2:53 p.m. by: david deguire



LEGEND

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

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED AUGUST 18TH – 20TH, 2008.
2. CONTOURS GENERATED PRIMARILY USING SURFER SOFTWARE VERSION 8. SOME INTERPRETATION WAS DONE USING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. WELLS/PIEZOMETERS SHOWN IN GRAYSCALE WERE NOT USED FOR CONTOURING.
4. 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.
5. THE POTENTIOMETRIC SURFACE OBSERVED AROUND SITE R MAY BE ASSOCIATED WITH THE OPERATION OF THE SA2 GMCS.
6. NEITHER THE PHYSICAL NOR THE HYDROLOGIC BARRIERS CREATED BY THE SA2 GMCS WERE INCORPORATED INTO THE DEVELOPMENT OF THESE CONTOURS.
7. LOCATIONS WITH WELLS SCREENED IN BOTH THE MHU AND DHU UTILIZED THE DHU WELL FOR DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP.
8. GROUNDWATER ELEVATION DATA FROM EW-1, EW-2, EW-3, PZ-6D, PZ-7D, P1-INSIDE, AND P4-INSIDE WERE NOT USED IN THE DEVELOPMENT OF THE POTENTIOMETRIC SURFACE DUE TO THE GROUNDWATER ELEVATIONS IN THESE WELLS APPEARING ANOMALOUS TO SURROUNDING WELLS. THE ANOMALOUS GROUNDWATER ELEVATIONS WERE A LIKELY RESULT OF EW-1 AND EW-3 OPERATING DURING THE GAUGING EVENT.
9. DATA FROM BSAMW-1S, WAS NOT INCLUDED IN THE DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP SINCE THE WELL IS SCREENED IN THE SHALLOW HYDROGEOLOGIC UNIT.
10. DATA FROM PMAMW05M, CPAMW-2D, AND PMAMW06D WERE NOT INCLUDED IN THE DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP DUE TO THE DATA APPEARING ANOMALOUS TO SURROUNDING GROUNDWATER LEVELS AND A REVIEW OF HISTORICAL POTENTOMETRIC SURFACE MAPS.

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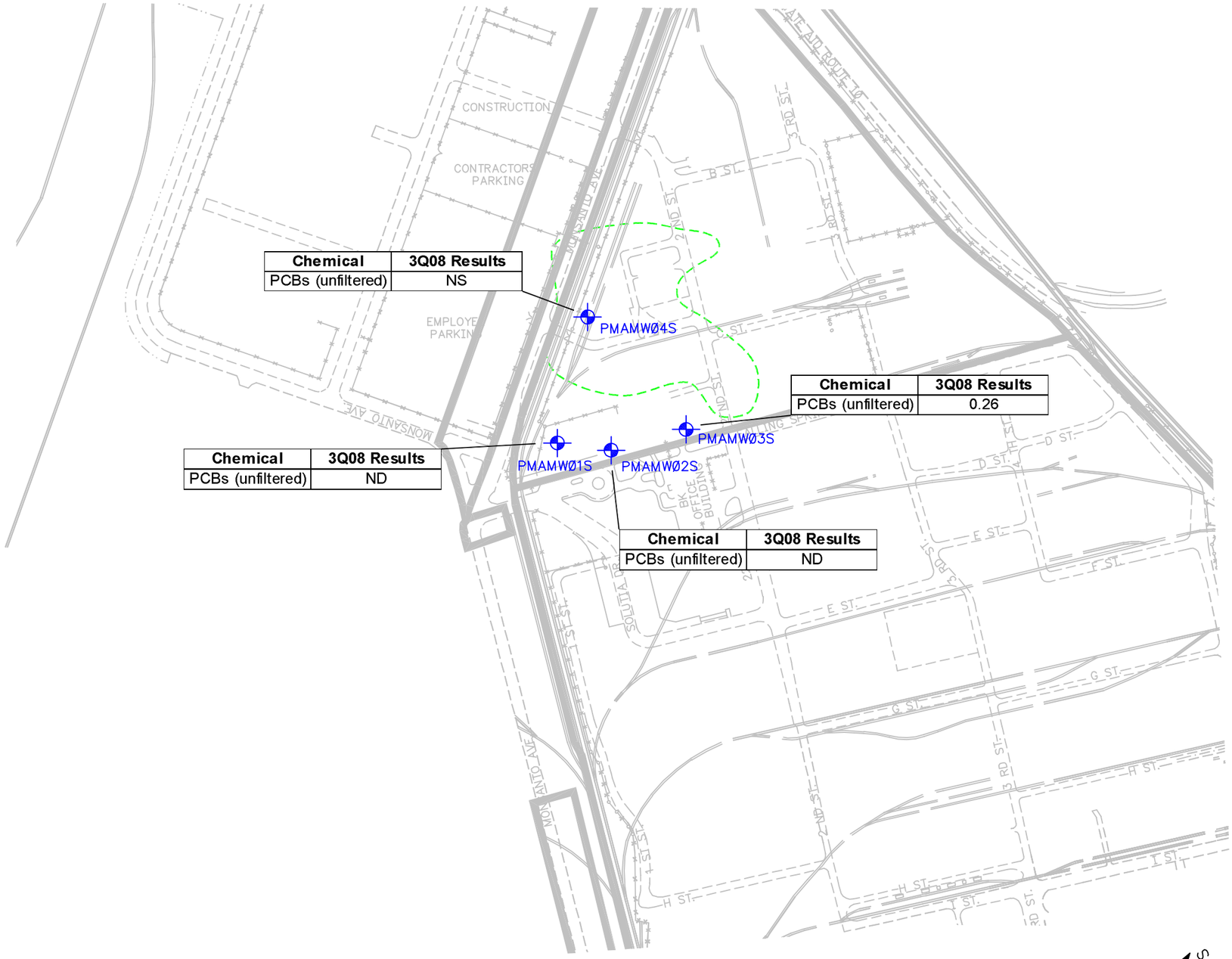
PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM 3RD QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562047
URS	
DRN. BY:lrm 12/12/08 DSGN. BY:ekf CHKD. BY:tja	Potentiometric Surface Map Middle Deep Hydrogeologic Unit
	FIG. NO. 3

File: P:\ENVIRONMENTAL\21561996 (WGK CM)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\3Q08 SAMPLING EVENT\DRAFT REPORT\3Q08 FIGURES\FIG 3 POTENTIOMETRIC SURFACE MAP.DWG Last edited: 12/12/08 @ 4:13 p.m. WG-STLOUIS, MO



Chemical	3Q08 Results
PCBs (unfiltered)	NS

Chemical	3Q08 Results
PCBs (unfiltered)	0.26

Chemical	3Q08 Results
PCBs (unfiltered)	ND

Chemical	3Q08 Results
PCBs (unfiltered)	ND

LEGEND

MONITORING WELL LOCATION

APPROXIMATE 25 mg/kg TOTAL PCB CONTOUR LINE (SOIL)

NOTES:

1. TOTAL PCB RESULTS INCLUDE THE SUM OF ALL METHOD 68Ø HOMOLOGS.
2. RESULTS ARE SHOWN IN ug/L.
3. ND DENOTES NOT DETECTED.
4. NS DENOTES NOT SAMPLED. PMAMWØ4S CONTAINED DNAPL AND THE GROUNDWATER WAS NOT SAMPLED DURING THE 3QØ8 SAMPLING EVENT.
5. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE

N E S W

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SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
3RD QUARTER 2ØØ8 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562Ø47

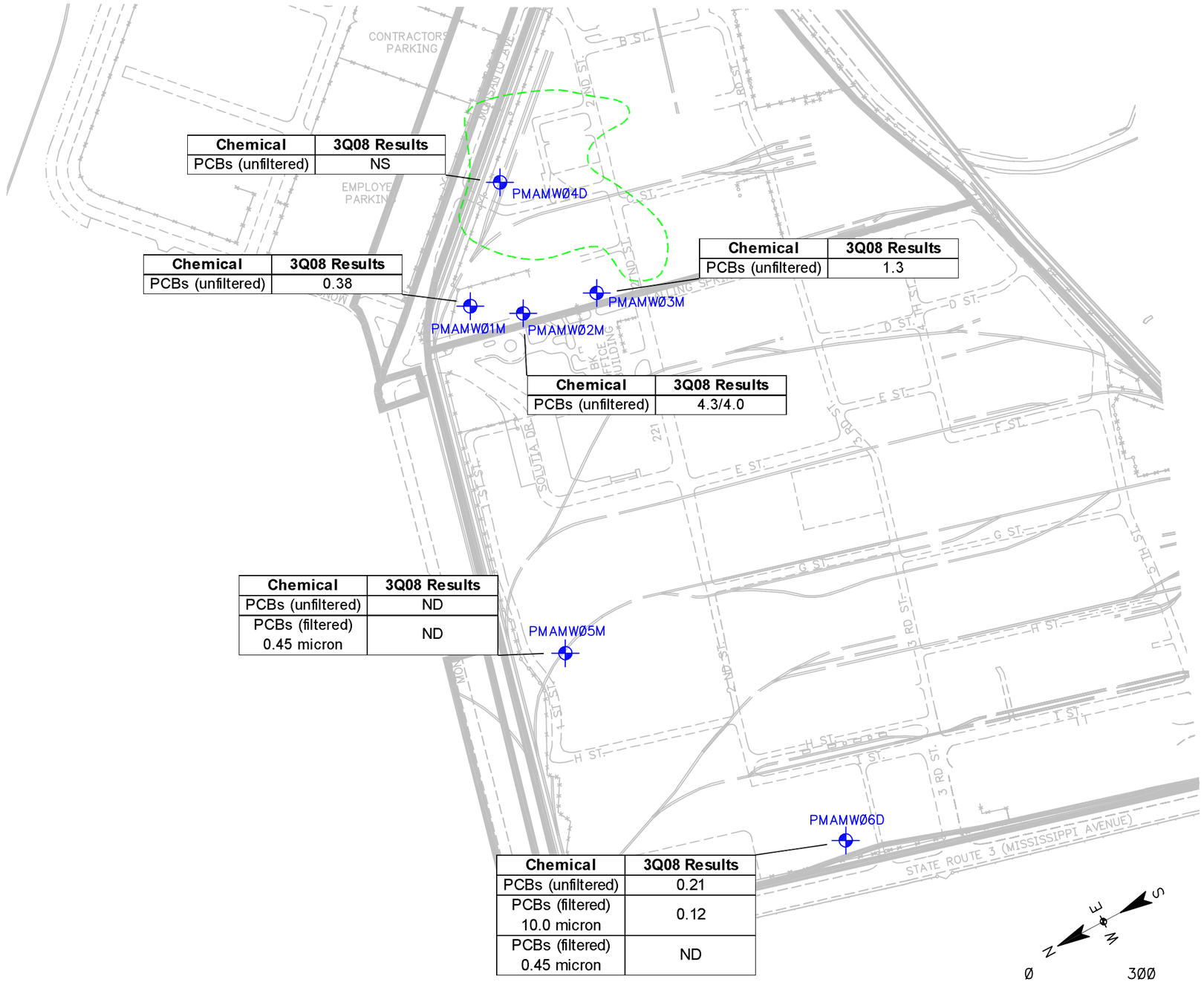
URS

DRN. BY: lrm 12/12/Ø8
DSGN. BY: ekf
CHKD. BY: tja

PCB Results – SHU Wells

FIG. NO. 4

File: P:\ENVIRONMENTAL\21561996 (WGK CU)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\3Q08 SAMPLING EVENT\DRAFT REPORT\3Q08 FIGURES\FIG-4 TOTAL PCBS SHU WELLS.DWG Last edited: DEC. 12, 08 @ 2:56 p.m. by: david_deguire



Chemical	3Q08 Results
PCBs (unfiltered)	NS

Chemical	3Q08 Results
PCBs (unfiltered)	0.38

Chemical	3Q08 Results
PCBs (unfiltered)	1.3

Chemical	3Q08 Results
PCBs (unfiltered)	4.3/4.0

Chemical	3Q08 Results
PCBs (unfiltered)	ND
PCBs (filtered) 0.45 micron	ND

Chemical	3Q08 Results
PCBs (unfiltered)	0.21
PCBs (filtered) 10.0 micron	0.12
PCBs (filtered) 0.45 micron	ND

N S E W

0 300

SCALE FEET

LEGEND

MONITORING WELL LOCATION

APPROXIMATE 25 mg/kg TOTAL PCB CONTOUR LINE (SOIL)

NOTES:

1. TOTAL PCB RESULTS INCLUDE THE SUM OF ALL METHOD 680 HOMOLOGS.
2. RESULTS ARE SHOWN IN ug/L.
3. ND DENOTES NOT DETECTED.
4. NS DENOTES NOT SAMPLED DURING 3Q08 SAMPLING EVENT.
5. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
3RD QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562047

URS

DRN. BY: lrm 12/12/08
DSGN. BY: ekf
CHKD. BY: tja

PCB Results – MHU/DHU Wells

FIG. NO. 5

File: P:\ENVIRONMENTAL\21561996 (WGK CW)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\3Q08 SAMPLING EVENT\DRAFT REPORT\3Q08 FIGURES\FIG-5 TOTAL PCBS MHU-DHU WELLS.DWG Last edited: DEC. 12, 08 @ 2:59 p.m. by: david.desjarlais

Tables

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See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						August 18-20, 2008				Area
	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) ***	Depth to Product (feet) ***	Depth to Bottom (feet)***	Water Elevation (feet)*	
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)											
BSAMW-1S (PSMW05)	409.49	412.31	19.68	24.86	389.63	384.63	11.62	--	27.32	400.69	WGK
PMAMW01S	410.06	410.06	20.18	25.18	389.88	384.88	8.82	-	24.92	401.24	WGK
PMAMW02S	411.66	411.66	22.94	27.94	388.72	383.72	10.92	-	27.35	400.74	WGK
PMAMW03S	412.06	412.06	22.71	27.71	389.35	384.35	11.20	-	27.40	400.86	WGK
PMAMW04S	410.43	410.43	20.99	25.99	389.44	384.44	9.61	24.86*****	25.36	400.82	WGK
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)											
PMAMW01M	410.08	410.08	54.54	59.54	355.54	350.54	9.56	-	59.63	400.52	WGK
PMAMW02M	411.93	411.93	56.87	61.87	355.06	350.06	11.30	-	61.55	400.63	WGK
PMAMW03M	412.10	412.10	57.07	62.07	355.03	350.03	11.31	-	61.82	400.79	WGK
PMAMW05M	411.27	410.97	52.17	57.17	359.10	354.10	9.52	-	56.97	401.45	WGK
PSMW01	409.37	412.59	34.56	39.56	374.81	369.81	11.50	--	46.06	401.09	WGK
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)											
BSAMW-2D (PSMW08)	412.00	415.13	65.79	70.79	346.21	341.21	15.10	--	77.05	400.03	WGK
BSAMW-3D (PSMW12)	412.91	415.74	104.80	109.80	308.11	303.11	18.78	--	114.82	396.96	WGK
BSAMW-4D (PSMW16D)	425.00	424.69	118.54	123.54	306.46	301.46	31.05	--	123.21	393.64	WGK
BSAMW-5D (PSMW15D(R))	420.80	420.49	116.25	120.85	304.95	299.95	28.45	--	120.95	392.04	WGK
CPAMW-1D (PSMW03)	408.62	408.32	66.12	71.12	342.50	337.50	7.45	--	70.81	400.87	WGK
CPAMW-2D (PSMW04)	408.51	408.20	99.96	104.96	308.55	303.55	8.28	--	104.67	399.92	WGK
CPAMW-3D (PSMW07)	410.87	410.67	101.90	106.90	308.97	303.97	10.80	--	112.87	399.87	WGK
CPAMW-4D (PSMW11)	421.57	421.20	116.44	121.44	305.13	300.13	25.37	--	121.02	395.83	WGK
CPAMW-5D (PSMW14D)	411.03	413.15	105.51	110.51	305.52	300.52	23.54	--	114.69	389.61	WGK
DNAPL-K-1	413.07	415.56	108.2	123.2	304.87	289.87	14.48	--	123.18	401.08	WGK
DNAPL-K-2	407.94	407.72	97.63	112.63	310.31	295.31	6.85	--	112.40	400.87	WGK
DNAPL-K-3	412.13	411.91	104.8	119.8	307.33	292.33	10.98	--	119.33	400.93	WGK
DNAPL-K-4	409.48	409.15	102.55	117.55	306.93	291.93	NG	NG	NG	--	WGK
DNAPL-K-5	412.27	411.91	102.15	117.15	310.12	295.12	10.80	--	116.50	401.11	WGK
DNAPL-K-6	410.43	410.09	102.47	117.47	307.96	292.96	9.15	--	116.95	400.94	WGK
DNAPL-K-7	408.32	407.72	100.4	115.4	307.92	292.92	6.90	--	115.38	400.82	WGK
DNAPL-K-8	408.56	411.38	102.65	117.65	305.91	290.91	10.85	--	117.20	400.53	WGK
DNAPL-K-9	406.45	405.97	97.42	112.42	309.03	294.03	5.00	--	111.20	400.97	WGK
DNAPL-K-10	413.50	413.25	105.43	120.43	308.07	293.07	12.25	--	120.35	401.00	WGK
DNAPL-K-11	412.20	411.78	105.46	120.46	306.74	291.74	10.96	--	120.30	400.82	WGK
EW-1	442.02	422.72	53	131	369.02	291.02	NG	NG****	NG	377.65	Site R
EW-2	418.53	419.84	41.50	104.90	377.03	313.63	NG	NG****	NG	394.06	Site R
EW-3	420.58	421.45	56.70	126.00	363.88	294.58	NG	NG****	NG	378.75	Site R
GM-9C	409.54	411.21	88	108	321.54	301.54	10.35	--	108.40	400.86	WGK
GWE-1D (PIEZ-1D)	412.80	415.60	117	127	295.80	285.80	NG	NG	NG	--	Sauget Area 2
GWE-2D (PIEZ-2D)	417.45	417.14	127	137	290.45	280.45	NG	NG	NG	--	Sauget Area 2
GWE-4D (TRA3-PZADHU)	406.05	405.74	74	80	332.05	326.05	7.90	--	78.80	397.84	WGK
GWE-10D (PIEZ-6D)	410.15	412.87	102.5	112.5	307.65	297.65	12.82	--	114.88	400.05	Lot F
GWE-14D (TRA5-PZCDHU)	420.47	422.90	90	96	330.47	324.47	27.45	--	96.98	395.45	WGK
P1-INSIDE	423.00	424.26	55.00	130.00	368.00	293.00	33.33	--	NG	390.93	Site R
P4- INSIDE	420.50	423.64	52.50	132.50	368.00	288.00	30.99	--	135.10	392.65	Site R
PMAMW04D (PSMW02)	411.22	410.88	68.84	73.84	342.38	337.38	10.22	-	73.37	400.66	WGK
PMAMW06D	407.63	407.32	96.49	101.49	311.14	306.14	6.12	-	101.29	401.20	WGK
PSMW06	404.11	406.63	99.80	104.80	304.31	299.31	9.62	--	109.84	397.01	WGK
PSMW09	403.92	403.52	100.40	105.40	303.52	298.52	3.38	--	105.15	400.14	WGK
PSMW10	409.63	412.18	101.23	106.23	308.40	303.40	18.08	--	111.31	394.10	WGK
PSMW13	405.80	405.53	106.08	111.08	299.72	294.72	7.85	--	110.24	397.68	WGK
PSMW17 (BWMW-4D)	420.22	423.26	121.25	126.25	298.97	293.97	34.10	--	134.06	389.16	WGK

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See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						August 18-20, 2008				Area
	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) ***	Depth to Product (feet) ***	Depth to Bottom (feet)***	Water Elevation (feet)*	
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)											
PZ-5U	421.52	420.99	40.00	140.00	381.52	281.52	NG	NG****	NG	395.84	Site R
PZ-6D	421.64	418.64	41.70	131.70	377.55	287.55	NG	NG****	NG	395.56	Site R
PZ-7D	417.51	422.16	44.50	124.50	373.01	293.01	26.41	--	NG	395.75	Site R
PZ-8U	422.75	419.69	43.10	133.10	376.89	286.89	26.80	--	NG	392.89	Site R

Notes:
* Elevation based upon North American Vertical Datum (NAVD) 88 datum.
** Feet below ground surface (feet bgs).
*** Depth is measured from top of casing.
**** Groundwater elevation obtained by automatic gauging equipment. Elevation is the average of the the elevations recorded on the three days well gauging was performed.
***** Approximated depth. The electronic interface probe did not register a product tone within the well. However, product was observed on a weighted string lowered into the well and an approximate depth to product was determined by the thickness of
NG denotes not gauged.
Coordinates--State Plane 1983, Illinois West, NAD 1983.

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Table 2
Groundwater and DNAPL Analytical Detections

Sample ID	Units	Sample Date	Monochlorobiphenyl	Dichlorobiphenyl	Trichlorobiphenyl	Tetrachlorobiphenyl	Pentachlorobiphenyl	Hexachlorobiphenyl	Heptachlorobiphenyl	Octachlorobiphenyl	Nonachlorobiphenyl	Decachlorobiphenyl
Shallow Hydrologic Unit												
PMAMW01S-0808	ug/L	8/22/2008	<0.097	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02S-0808	ug/L	8/22/2008	<0.097	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW03S-0808	ug/L	8/22/2008	0.26	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW04S-0808-DNAPL	ug/Kg	8/27/2008	<990,000	6,400,000	35,000,000	51,000,000	68,000,000	100,000,000	38,000,000	24,000,000	<5,100,000	<5,100,000
Middle / Deep Hydrologic Unit												
PMAMW01M-0808	ug/L	8/22/2008	0.38	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02M-0808	ug/L	8/22/2008	4.3	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02M-0808-AD	ug/L	8/22/2008	4.0	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW03M-0808	ug/L	8/22/2008	1.3	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW05-0808	ug/L	8/18/2008	<0.94	<0.094	<0.094	<0.19	<0.19	<0.19	<0.28	<0.28	<0.47	<0.47
PMAMW05-F(0.45)-0808	ug/L	8/18/2008	<0.94	<0.094	<0.094	<0.19	<0.19	<0.19	<0.28	<0.28	<0.47	<0.47
PMAMW06-0808	ug/L	8/18/2008	0.21	<0.094	<0.094	<0.19	<0.19	<0.19	<0.28	<0.28	<0.47	<0.47
PMAMW06-F(10.0)-0808	ug/L	8/18/2008	0.12	<0.094	<0.094	<0.19	<0.19	<0.19	<0.28	<0.28	<0.47	<0.47
PMAMW06-F(0.45)-0808	ug/L	8/18/2008	<0.94	<0.094	<0.094	<0.19	<0.19	<0.19	<0.28	<0.28	<0.47	<0.47

Notes:
AD = Analytical Duplicate
ug/L = micrograms per liter
ug/Kg = micrograms per kilogram
<### = Result is non-detect, less than the reporting limit given.

Appendix A

Groundwater Profiling, Well Installation

& Development Supporting Information

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This technical memorandum presents the methods and results of the groundwater profiling and additional well installation completed to define the extent of the PCB plume downgradient of the former PCB Manufacturing Area. This technical memorandum details activities from the groundwater profiling, well installation, well development, and well survey which were conducted between June and August, 2008. The work was detailed in the PCB Groundwater Quality Assessment Program Work Plan dated May 21, 2008. Various emails were exchanged between Solutia Inc. and the USEPA approving next steps:

- May 28th email from USEPA to Solutia providing comments on the final PCB Groundwater Quality Assessment Program Work Plan dated May 21, 2008.
- June 5th email from Solutia to USEPA responding to USEPAs comments on the work plan, specifically a request to validate data from push samples not completed into wells and sample depths/elevations for the push-sampling.
- July 18th email from Solutia to USEPA outlining results of the push-sampling program and planned permanent well locations.
- July 21st email from USEPA to Solutia commenting on Solutia's July 18th email, specifically proposing an alternate location for PSMW05.

Prefield Activities

Prior to the start of sampling, URS personnel identified areas to be probed in relation to plant features. Each location was checked for utilities by the on-site Solutia CMR (Contractor Management Representative) prior to drilling. Two locations (PPA-09 and PPA-10) were moved inside the plant boundaries from the median of Route 3. The new locations were over 100 feet from the proposed locations due to this move and to avoid known or suspected utilities. The remaining locations were located within approximately 25 feet of the proposed locations, variance based on underground utilities.

Groundwater Profiling

To ensure that permanent monitoring wells were located in the correct position to define the extent of the PCB plume downgradient of the Former PCB Manufacturing Area, groundwater samples were collected from the middle hydrogeologic unit (MHU) and deep hydrogeologic unit (DHU) using push sampling methods at the ten locations shown on **Figure A-1**. These sampling locations cover the observed range of groundwater flow directions in the MHU and DHU based on groundwater levels measured during the seven quarterly PCB Mobility and Migration Investigation sampling rounds. Groundwater samples were collected using the hydraulic push system of a Geoprobe® to advance a four-foot stainless steel slotted sampler, with a screen slot size of 0.002 inches, to the desired sample depth.

Once the sampler was advanced to the predetermined depth within each stratum, the water level was evaluated using an electronic interface probe measuring the depth to water from the ground surface to the nearest 1/100th of a foot and recorded on a groundwater sampling form. Dedicated polyethylene tubing equipped with a ball and check valve system was placed down into the slotted portion of the sampler and

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set at approximately the middle of the screened interval (two feet from the bottom of the screen). A new section of tubing measured to the appropriate length was used at every sampling interval. The tubing was then connected through a Waterra® Hydro-Lift II pump to a flow-through cell. The pump was started and the purge rate was set to the lowest flow rate possible.

Purging continued until:

- Water quality readings had stabilized to within the following parameters:
    - pH – +/- 0.2 units
    - Conductivity – +/- 3%
    - Temperature – +/- 0.2 ºC
    - DO – +/- 10% or +/-0.2 mg/L, whichever is greatest
    - ORP – +/- 20 mV
    - Turbidity – +/- 10%
- Parameters were stable for 30 minutes and a minimum of three flow-through cell volumes

The above mentioned parameters were measured and recorded on sampling forms. (**Attachment A-1**)

Once parameters had stabilized, purging was deemed complete and the groundwater profile sample was collected. Groundwater samples were collected at each profiling location and depth for the following parameters in the following order:

- Total PCBs – Method 680
- Filtered PCBs (0.45 micron in-line filter) – Method 680

The groundwater samples at each sampling interval were collected by allowing the groundwater to flow from the polyethylene tubing directly into the laboratory supplied sample containers.

After sample collection was complete at the desired depth within a stratum, the sampler was advanced to the next desired sample depth within the next deeper stratum by connecting clean sections of push rods to the Geoprobe®. This process was continued until all samples were collected. Upon completion of each groundwater profiling soil boring, each Geoprobe® hole was sealed with grout from the bottom up using the Geoprobe® rods as a tremie pipe and the surface was returned to match surrounding surface conditions.

Due to no minimal yield of the MHU at PPA-08, and the buildup of fines in the drill rods during the attempted profiling activities, a temporary well was installed at this profile location to facilitate collection of a groundwater sample. The well was installed using 1 inch PVC and left in-place overnight prior to sampling. Once sampling was complete, the well was pulled and the boring was backfilled with high solids bentonite grout.

A total of 40 groundwater samples were collected with 20 samples analyzed for unfiltered Total PCBs and 20 samples analyzed for filtered Total PCBs. Both filtered and unfiltered samples were collected to assess the effect of solids entrainment during sampling on analytical results.

For proper identification in the field and proper tracking by the analytical laboratory, investigative samples were labeled in a clear and consistent fashion. A completed sample label was attached to each

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investigative or QA/QC sample. The sample labels included the project name and number, sample identification, initials of sampler, sampling location, required analysis, and date and time of sample collection. Sample labels were wrapped in clear tape for waterproofing and glass sample containers were sealed in plastic bubble wrap bags.

The sample identification system for soil involved the following nomenclature "PPA-AA-BB-F-CCCC" where:

- "PPA" denoted
  - PCB Plume Assessment
- "AA" denoted
  - Profile boring
- "BB" denoted
  - The depth of the middle of the screen interval
- "F" denoted
  - If the sample was a field filtered sample
- "CCCC" denoted
  - The sample month and year

For example, PPA-01-55-F-0608 would indicate a soil sample obtained at PPA profile boring 01 where the middle of the screen interval was at 55 feet bgs, the sample was field filtered with an inline filter, and the sample was collected during June 2008.

Quality assurance/quality control (QA/QC) samples were not collected during profiling.

The samples were placed on ice inside a cooler immediately following sample collection. The sample containers were packed in such a way as to help prevent breakage and cross-contamination. The samples were shipped in coolers, each containing a Chain-of-Custody (COC) form and ice packs to maintain an inside temperature of approximately 4ºC. Prior to shipment, the sample coolers were sealed with a tamper-evident custody seal. The samples, along with the corresponding COC and temperature blank, were shipped by means of a common overnight delivery service to the TestAmerica laboratory in Savannah, GA. COC forms are included in **Attachment A-2.**

Field personnel maintained a field log book and annotated field sampling maps to record information sufficient to allow reconstruction of field issues, sample collection, and handling procedures at a later time.

Only two samples contained PCBs at concentrations higher than 0.5 µg/L, PPA-04-55 and PPA-09-99, which had concentrations of 0.57 and 0.99 µg/L respectively. A summary of the push-sampling effort is included on **Table A-1** and laboratory results are included as **Attachment A-2** (including data review sheets).

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Monitoring Well Installation

Two permanent monitoring wells were identified to be installed based on the results of the groundwater profiling (e.g. >0.5 ug/L). One monitoring well (PMAMW05) was installed in the MHU downgradient of PMAMW02 and PPA-04-55. The other monitoring well (PMAMW06) was installed in the DHU at PPA-09-99.

The monitoring wells were installed by Boart-Longyear (Boart) using rotosonic drilling technology. Borings were advanced using a four-inch diameter sampling core barrel and a six-inch override casing. The subsurface stratigraphy was logged by a qualified URS Corporation (URS) field scientist in accordance with the Unified Soil Classification System (USCS) protocols and URS procedures. The field scientist noted soil attributes such as color, particle size, consistency, moisture content, structure, odor (if obvious) and organic content (if visible). Soil samples from each boring were visually evaluated for evidence of impact and screened in the field using a photoionization detector (PID). Soil boring logs are included in **Attachment A-3**.

The monitoring wells were constructed using Type 304 stainless steel, consisting of 5 foot long, wire-wrapped screens with 0.01 inch openings, and stainless steel riser pipe. The screen and riser pipe were lowered into the boring through the inside of the override casing. Filter sand was poured into the borehole through the override casing and allowed to settle. The override casing was vibrated up to allow the sand to settle further. The filter sand was brought to approximately two feet above the top of the screen. Once the filter sand was in place, bentonite chips were added to the borehole through the override casing. A minimum of three feet of bentonite was added to create a seal. Once the seal was in place the override casing was again vibrated up. The seal was then allowed a minimum of thirty minutes to set. The remaining annular space was filled with a cement and bentonite grout to approximately two feet below the surface. Once the grout was set (minimum of two days) the well was completed with a flush mount protector. Two by two foot concrete pads were constructed around each well. Wellheads were secured using lockable-expandable caps.

The monitoring wells were constructed in accordance with the URS SOP on monitoring well installation. Monitoring Well Construction Logs are included in **Attachment A-4**. Monitoring well construction details are presented in **Table A-2**.

Monitoring Well Development

Following the installation of the wells, Boart developed the wells using a Grundfos stainless steel pump. Development continued until:

- A minimum of five times the amount of water introduced to the screen zone in the last 20 feet of the boring plus five well volumes had been removed.
- Water quality readings had stabilized to within the following parameters:
    - pH – +/- 0.2 units

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- Conductivity – +/- 10%
- Temperature – +/- 1 ºC
- Turbidity – +/- 10%

- Fines were removed (Turbidity <5 NTUs)
- Parameters were stable for a minimum of two well volumes.

Well development forms are included in **Attachment A-5**.

Monitoring Well Survey

Zahner & Associates completed a level-circuit survey of the new wells. Elevations are accurate to within approximately 0.02 feet. The results of the survey are presented with the monitoring well construction details presented in **Table A-2**.

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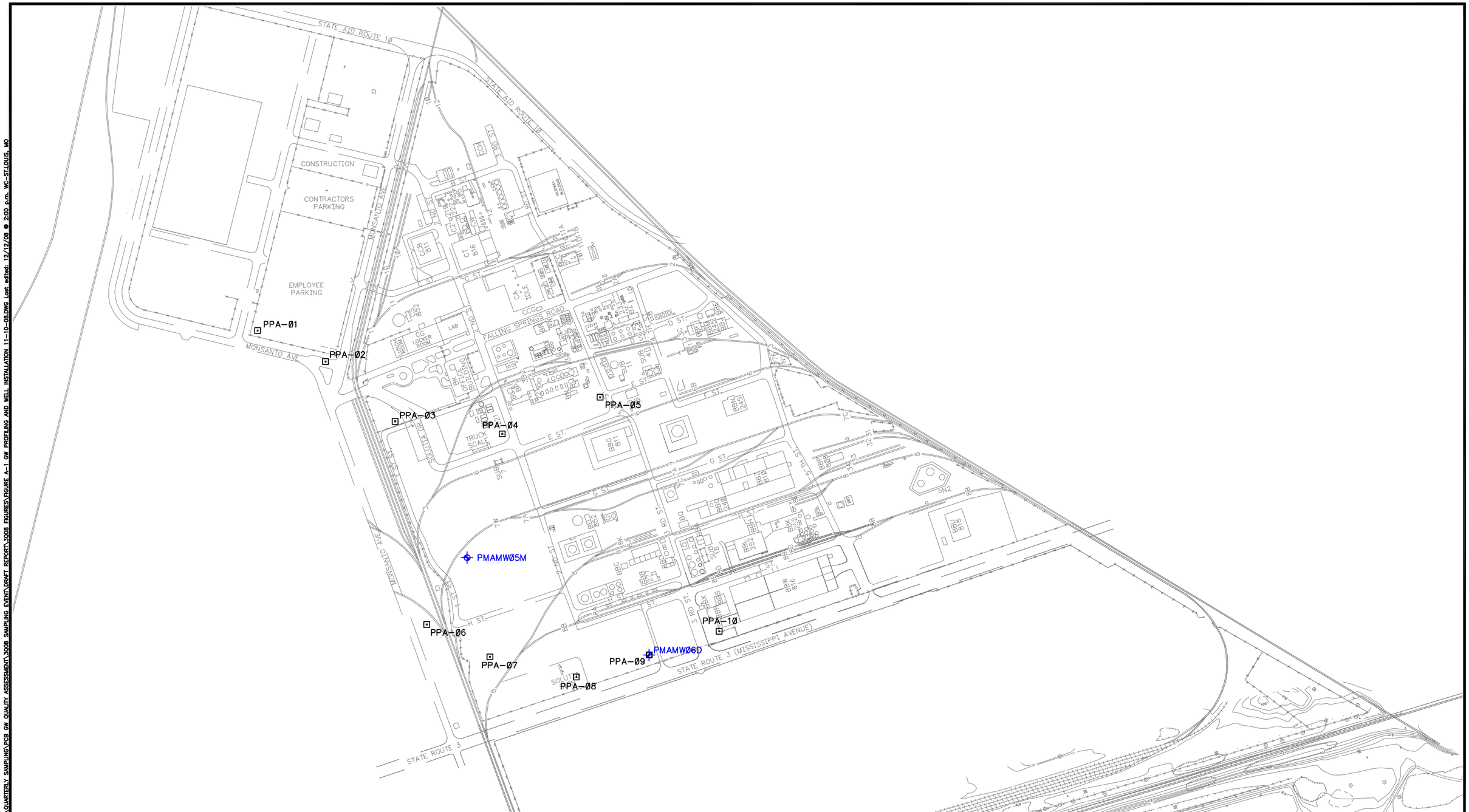
Figures



LEGEND

GROUNDWATER PROFILING LOCATION

NEW PMA MONITORING WELL

0 N 400 SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM 3RD QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY, SAUGET, ILLINOIS		PROJECT NO. 21562047
URS		
DRN. BY:djd 11/10/08 DSGN. BY:mpm CHKD. BY:	Groundwater Profiling and Well Installation Locations	FIG. NO. A-1

File: P:\ENVIRONMENTAL\21561996 (WGK CW)\QUARTERLY SAMPLING\PCB GW QUALITY ASSESSMENT\2008 SAMPLING EVENT\DRAFT REPORT\2008 FIGURES\FIGURE A-1 GW PROFILING AND WELL INSTALLATION 11-10-08.DWG Last edited: 12/12/08 @ 2:00 p.m. WG-STLOUIS, MO

Tables

Table A-1
Push-Sampling PCB Results

Location	Sample ID	Unit	Depth (feet, bgs)	Result[1] (ug/L)
1	PPA-01-55-0608	MHU	55	ND
	PPA-01-55-F-0608	MHU	55	ND
	PPA-01-71-0608	DHU	71	ND
	PPA-01-71-F-0608	DHU	71	ND
2	PPA-02-55-0608	MHU	55	ND
	PPA-02-55-F-0608	MHU	55	ND
	PPA-02-71-0608	DHU	71	ND
	PPA-02-71-F-0608	DHU	71	ND
3	PPA-03-55-0608	MHU	55	ND
	PPA-03-55-F-0608	MHU	55	ND
	PPA-03-67-0608	DHU	67	0.38
	PPA-03-67-F-0608	DHU	67	ND
4	PPA-04-55-0608	MHU	55	0.57
	PPA-04-55-F-0608	MHU	55	ND
	PPA-04-67-0608	DHU	67	0.18
	PPA-04-67-F-0608	DHU	67	ND
5	PPA-05-55-0608	MHU	55	0.11
	PPA-05-55-F-0608	MHU	55	ND
	PPA-05-67-0608	DHU	67	ND
	PPA-05-67-F-0608	DHU	67	ND
6	PPA-06-51-0608	MHU	51	0.18
	PPA-06-51-F-0608	MHU	51	ND
	PPA-06-99-0608	DHU	99	ND
	PPA-06-99-F-0608	DHU	99	ND
7	PPA-07-51-0608	MHU	51	0.26
	PPA-07-51-F-0608	MHU	51	0.22
	PPA-07-99-0608	DHU	99	ND
	PPA-07-99-F-0608	DHU	99	ND
8	PPA-08-55-0608	MHU	55	ND
	PPA-08-55-F-0608	MHU	55	ND
	PPA-08-99-0608	DHU	99	ND
	PPA-08-99-F-0608	DHU	99	ND
9	PPA-09-51-0608	MHU	51	ND
	PPA-09-51-F-0608	MHU	51	ND
	PPA-09-99-0608	DHU	99	0.99
	PPA-09-99-F-0608	DHU	99	ND
10	PPA-10-51-0608	MHU	51	ND
	PPA-10-51-F-0608	MHU	51	ND
	PPA-10-99-0608	DHU	99	ND
	PPA-10-99-F-0608	DHU	99	ND

Notes:
(1) Results represent the sum of the PCB homologs.
ND = Nondetect
bgs = below ground surface
Sample ID's with "F" denote filtered samples.

Table A-2
Monitoring Well Completion Summary

Well ID	Total Depth (ft bgs)	Screened Interval			Screen Length	Construction Material	Well Diameter (inches)	Date Installed	Top of Casing Elevation (ft NAVD)	Riser Height (ft ags)	Northing	Easting
PMAMW05M	56.97	51.97	-	56.97	5	Stainless Steel	2	8/12/2008	410.97	-0.30	703692.43	2295455.21
PMAMW06D	101.29	96.29	-	101.29	5	Stainless Steel	2	8/14/2008	407.29	-0.31	703270.39	2294662.46

Notes:
ft ags = feet, above ground surface
ft bgs = feet, below ground surface
NAVD = North American Vertical Datum
Riser heights are above ground surface (positive values) or below ground surface (negative values)

Attachment A-1
Groundwater Purging & Sampling Forms
Push Sampling

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 6/10/08 WEATHER: Sunny 80°F
MONITORING WELL ID: PPA 01-55 SAMPLE ID: PPA-01-55-0608

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 57 ft
Depth to Water (btoc): 21.5 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 53 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 35.5 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.5 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
500	0952	–	Brown	None	7.24	24.60	2.090	Error	-0.07	-44.8
1000	0959		Brown	"	7.21	20.65	1.147	Error	-0.01	-48.8
2000	1009		Cloudy Brown	"	6.92	19.07	1.032	2712	0.24	-26.2
2500	1014		"	"	6.93	18.91	1.025	1459	0.02	-32.5
3000	1019		"	"	7.03	18.83	1.030	1437	0.01	-37.2
3500	1024		"	"	6.93	18.52	1.016	1159	0.01	-38.1
4000	1029		"	"	6.93	18.38	1.014	1138	0.02	-39.4
4500	1034		"	"	6.48	18.37	1.010	961	0.02	-41.2
5000	1039		"	"	7.03	18.46	1.004	468	0.01	-43.8
5500	1044		"	"	7.00	18.59	1.007	458	0.02	-43.5
6000	1049		"	"	7.07	18.37	1.003	462	0.02	-44.5
6500	1054		"	"	7.07	18.33	1.002	452	0.02	-45.04
7000	1059		"	"	7.05	18.27	1.004	458	0.01	-46.3
7500	1104		"	"	7.07	18.25	0.998	407	0.01	-48.3
8000	1109		"	"	7.08	18.20	0.996	324	0.02	-49.2
8500	1114		"	"	7.10	18.18	0.246	321	0.02	-49.5

Start Time: 0945
Stop Time: 1135
Elapsed Time: 1 hr 50 min
Average Purge Rate (mL/min): 100 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 06/10/08

SAMPLING DATA

Sample Date: 6/10/08
Sample Method: ~~Stainless Steel Monsoon~~ Hydrolift
Sample Time: 1135
Sample Flow Rate: 100 mL/min
Analysis: PCB 680
Date Calibrated: —

COMMENTS:
See back for more readings

57
35
22

Purge Volume	Time	Color	Odor	pH	Temp	Cond	Turbidity	DO	ORP
7000	1119	cloudy	None	7.08	18.14	0.998	330	0.02	-49.4
9500	1124	"	"	7.07	18.12	0.993	327	0.02	-49.7
10 000	1129	"	"	7.04	18.10	0.997	325	0.02	-50.6

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 2156 2047 FIELD PERSONNEL: M. Miller
DATE: 06/10/08 WEATHER: 85 Sunny
MONITORING WELL ID: PPA-01-71 SAMPLE ID: PPA-01-71-0608

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 73 ft
Depth to Water (btoc): 25 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 69 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 71 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
500	1210	–	Dk brown	none	7.01	26.63	1.109	Error	0.27	-56.9
1500	1220	–	"	"	7.10	26.42	1.039	Error	0.22	-66.4
2500	1230	–	Brown	"	7.00	25.86	1.147	5939	0.01	-83.0
3500	1240	–	"	"	6.99	25.55	1.140	4868	0.02	-77.9
4500	1250	–	"	"	7.02	25.59	1.138	1736	0.02	-83.4
5500	1300	–	Cloudy brown	"	7.05	25.61	1.135	982	0.02	-84.6
6500	1310	–	"	"	7.07	25.51	1.132	748	0.03	-90.1
7500	1320	–	"	"	7.09	25.62	1.132	320	0.01	-87.4
8500	1330	–	"	"	7.09	25.60	1.121	321	0.01	-84.6
9500	1340	–	Cloudy	"	7.03	25.61	1.119	325	0.02	-80.1
10500	1350	–	"	"	6.99	25.57	1.119	319	0.01	-79.7

Start Time: 1205
Stop Time: 1355
Elapsed Time: 1 hr 50
Average Purge Rate (mL/min): 100 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 06/10/08

SAMPLING DATA

Sample Date: 6/10/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolab II
Sample Time: 1355
Sample Flow Rate: 100 mL
Analysis: PCB 8082
Date Calibrated: –

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PP4 PROJECT NUMBER: 216262007 FIELD PERSONNEL: M. Miller
DATE: 6/12/08 WEATHER: —
MONITORING WELL ID: PP4-02-55 SAMPLE ID: PP4-02-55-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 57.00 ft
Depth to Water (btoc): 17.12 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 53 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 39.88 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 53 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.1 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
12000	1010	"	Cloudy brown	~~Alum~~ Sight sweet	7.18	21.22	2.519	2127	0.08	-11.0
14000	1020	"	"	"	6.85	20.72	2.474	1886	0.01	-64.7
16000	1030	"	"	"	6.86	21.25	2.471	1866	0.01	-78.9
18000	1040	"	"	"	6.84	20.47	2.464	1340	0.01	-83.7
20000	1050	"	"	"	6.86	20.32	2.458	1213	0.01	-87.7
22000	1100	"	cloudy	"	6.81	20.30	2.449	1086	0.01	-89.8
24000	1110	"	"	"	6.85	20.41	2.453	979	0.02	-92.5
26000	1120	"	"	"	6.79	20.36	2.453	885	0.01	-91.9
28000	1130	"	"	"	6.83	20.37	2.452	771	0.01	-93.0
30000	1140	"	"	"	6.79	20.41	2.441	769	0.01	-93.1
32000	1150	"	"	"	6.82	20.41	2.442	778	0.01	-93.8

Start Time: 0910
Stop Time: 1150
Elapsed Time: 2hr 40min (160min)
Average Purge Rate (mL/min): 200mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/12/08

SAMPLING DATA

Sample Date: ~~06/12/08~~ 06/12/08
Sample Method: Stainless Steel Monsoon
Sample Time: 1150
Sample Flow Rate: 200mL/min
Analysis: PCB 680
Date Calibrated: —

COMMENTS:
* Did not collect readings for first hour to give pump time to let turbidity drop

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA
PROJECT NUMBER: 21562047
FIELD PERSONNEL: M. Miller
DATE: 06/12/08
WEATHER: Sunny, 90s, wind 10-15 mph
MONITORING WELL ID: PPA-07-71
SAMPLE ID: PPA-07-71-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 73 ft
Depth to Water (btoc): 18.02 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 69 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 44.8 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 71 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ waterra

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
6000	1250	—	Brown/Orange	None	—	—	—	6361	—	—
8000	1305	—	"	"	—	—	—	3389	—	—
12000	1320	—	"	"	—	—	—	3406	—	—
14000	1330	—	"	"	6.84	28.98	1.988	2607	0.01	-32.1
16000	1340	—	"	"	6.95	28.92	1.984	1306	0.01	-79.7
18000	1350	—	Cloudy	"	6.88	25.83	1.951	1151	0.02	-86.7
20000	1400	—	"	"	6.90	25.79	1.974	1107	0.01	-58.1
22000	1410	—	"	"	6.97	25.80	1.996	914	0.02	-92.5
24000	1420	—	"	"	6.93	25.71	1.941	122	0.04	-100.1
26000	1430	—	"	"	6.96	25.76	1.930	128	0.03	-101.9
28000	1440	—	"	"	6.90	25.68	1.899	125	0.01	-100.2
30000	1450	—	"	"	6.89	25.69	1.890	123	0.01	-100.4

Start Time: 1220
Stop Time: 1450
Elapsed Time: 2 hr 30 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 06/12/08

SAMPLING DATA

Sample Date: 06/12/08
Sample Method: ~~Stainless Steel Monsoon~~ waterra
Sample Time: 1450
Sample Flow Rate: 200 mL/min
Analysis: PCB 680
Date Calibrated: —

COMMENTS:

73
-28
45

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 6/24/08 WEATHER: Cloudy 80's
MONITORING WELL ID: PPA-03-55 SAMPLE ID: PPA-03-55

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 57 ft
Depth to Water (btoc): 19.55 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 53 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): 37.45 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	0950	–	Brown	None	–	–	–	Empty	–	–
5000	1000	–	"	"	7.53	19.4	2.419	58.3	0.59	-122.4
7000	1010	–	"	"	7.41	19.17	2.412	244	0.26	-112.6
9000	1020	–	Clear-brown	"	7.39	19.01	2.399	164	0.20	-93.0
11000	1030	–	"	"	7.40	18.96	2.394	166	0.19	-84.9
13000	1040	–	"	"	7.39	18.92	2.390	160	0.18	-83.1
15000	1050	–	"	"	7.40	18.96	2.383	162	0.19	-80.1

Start Time: 0935
Stop Time: 1150
Elapsed Time: 1hr 15 min
Average Purge Rate (mL/min): 200mL
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/24/08

SAMPLING DATA

Sample Date: 6/24/08
Sample Time: 1050
Analysis: PCB 680
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Flow Rate: 200mL/min
Date Calibrated: –

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Mike
DATE: 6/24/08 WEATHER: Cloudy
MONITORING WELL ID: PPA-03-67 SAMPLE ID: PPA-03-67-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 69 ft
Depth to Water (btoc): 16.55 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 65 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 52.45 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 67 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
~~1000~~	~~1235~~	—	Brown	None	7.29	28.64	2.464	Brn 4	1.39	-179.4
1500	1355		"	"	7.11	22.20	2.383	Brn 4	0.35	-133.5
2000	1405		"	"	7.31	23.33	2.350	Brn 4	0.14	-151.7

Start Time: ~~1145~~ 1225 / 1345
Stop Time: 1150 / 1240 / 1410

Elapsed Time: 45 ~~min~~
Average Purge Rate (mL/min): 100 mL/min / 50 mL/min

Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/24/08

SAMPLING DATA

Sample Date: 6/24/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Sample Time: 1430
Sample Flow Rate: —

Analysis: PCB 680
Date Calibrated: —

COMMENTS:

1150 - well dry - could sample w/out stabilization

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 215620417 FIELD PERSONNEL: M. Mike
DATE: 6/23/08 WEATHER: Sunny 80's
MONITORING WELL ID: PPA-04-55 ~~0608~~ SAMPLE ID: PPA 0455-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 87 ft
Depth to Water (btoc): 70.55 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 53 ft
Screen Length: ~~34~~ ft

Water Column Height (do not include LNAPL or DNAPL): 36.45 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
2000	1000	–	Cloudy Brown	None	7.23	21.39	2.731	1985	0.76	-0.8
4000	1010	–	"	"	6.94	20.94	2.622	1958	0.18	-11.6
6000	1020	–	"	"	6.90	20.37	2.538	1176	0.12	-6.9
8000	1030	–	"	"	7.02	20.20	2.514	966	0.11	-7.1
10000	1040	–	"	"	6.93	19.89	2.478	268	0.14	-3.8
12000	1050	–	Clearing	"	6.90	19.88	2.478	260	0.18	-2.1
14000	1100	–	"	"	6.89	19.89	2.476	262	0.19	-2.0
16000	1110	–	"	"	6.89	19.85	2.464	259	0.15	-4.6

Start Time: 0950
Stop Time: 1110
Elapsed Time: 1 hr 20 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/23/08

SAMPLING DATA

Sample Date: 6/23/08
Sample Time: 1110
Analysis: 8015 680
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Flow Rate: 200 mL/min
Date Calibrated:

COMMENTS:

57
28/
85

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 6/23/08 WEATHER: Sunny 80s
MONITORING WELL ID: PPA-04-67 SAMPLE ID: PPA-04-67-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 64 ft
Depth to Water (btoc): 11.7 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): ft
Screen Length: 54 ft

Water Column Height (do not include LNAPL or DNAPL): ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Watera

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
500	1347		Dk brown	Sweet	–	–	–	Bad	–	–
1500	1357	–	"	"	9.50	26.82	5.005	Bad	0.60	-6.0
2500	1407	–	"	"	9.71	24.60	5.054	1.6	0.20	2.3
3500	1417	–	"	"	9.74	24.53	5.070	0.47	0.23	8.5
4500	1427	–	"	"	9.70	24.49	5.082	0.42	0.20	9.8
					9.75	24.48	5.080	0.40	0.21	11.7

Start Time: 1342
Stop Time: 1430
Elapsed Time: 38 min
Average Purge Rate (mL/min): 1 over 1/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 06/23/08

SAMPLING DATA

Sample Date: 6/23/08
Sample Method: ~~Stainless Steel Monsoon~~ water Hydrolift 2
Sample Time: 1430
Sample Flow Rate: 100 ml/min
Analysis: PCB 680
Date Calibrated: –

COMMENTS:
wet then after 30 min

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 2156 2047 FIELD PERSONNEL: M. Miller
DATE: 6/19/08 WEATHER: Cloudy 70's-80's
MONITORING WELL ID: PPA-05-55. SAMPLE ID: PPA-05-55-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 57 ft
Depth to Water (btoc): 18.10 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 53 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): 38.90 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra HydroLift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	1030	—	Dk Grayish brn	None	—	—	—	Error	—	—
5000	1040	—	"	"	—	—	—	Error	—	—
7000	1050	—	"	"	—	—	—	Error	—	—
9000	1100	—	"	"	—	—	—	Error	—	—
11000	1110	—	"	"	—	—	—	Error	—	—
13000	1120	—	"	"	—	—	—	Error	—	—
15000	1130	—	Dk gray	Sweet	7.02	23.44	2.642	579	0.33	30.4
17000	1140	—	"	"	6.97	22.47	2.609	61.8	0.11	32.0
19000	1150	—	"	"	6.96	22.52	2.607	364.3	0.09	24.7
21000	1200	—	"	"	7.02	23.33	2.593	262	0.06	16.8
23000	1210	—	"	"	7.01	23.21	2.583	229.7	0.06	11.2
25000	1220	—	"	"	7.02	23.11	2.563	174	0.04	4.8
27000	1230	—	"	"	6.97	22.95	2.563	113.9	0.05	2.6
29000	1240	—	"	"	6.95	23.01	2.561	85.3	0.05	1.0
31000	1250	—	Cloudy	"	6.96	23.07	2.569	16.4	0.05	-1.5
33000	1300	—	"	"	6.94	23.12	2.555	15.4	0.05	-2.1
35000	1310	—	"	"	6.96	23.14	2.563	14.8	0.05	-3.5

Start Time: 0915 / 1020
Stop Time: 1310
Elapsed Time: 2 hr 55 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/19/08

SAMPLING DATA

Sample Date: 6/19/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra
Sample Time: 1310
Sample Flow Rate: 200 mL
Analysis: PCB (8082)
Date Calibrated: —

COMMENTS:

0920 Stop generator (Smoking)

57
19
38

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 215620047 FIELD PERSONNEL: M. Miller
DATE: 6/20/08 WEATHER: Rain, 75°
MONITORING WELL ID: PPA-05-67 SAMPLE ID: PPA-05-67-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 69 ft
Depth to Water (btoc): 16.1 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 65 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 52.9 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is < 4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 67 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1500	0950	–	Dk gray	None	–	–	–	Err 4	–	–
2500	1035		"	"	–	–	–	Err 4	–	–
~~3500~~										
3000	1115	–	Dk gray	None	8.43	22.35	2.563	Err 4	0.15	30.4
4500	1355	–	Dk brown clear	None	8.73	22.30	2.584	4.62	0.19	40.1

Start Time: ~~0935~~ 0900/0940/1035
Stop Time: 0~~930~~/0955/1040/
Elapsed Time: 55 min
Average Purge Rate (mL/min): ~~[illegible]~~
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/20/08

SAMPLING DATA

Sample Date: 6/20/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Time: 1115
Sample Flow Rate: 100 ml/min (when pumping)
Analysis: PCB 8080
Date Calibrated: –

COMMENTS:

Stop pumping at 0925 to let recharge | Sampled w/out stabilization after 3000 ml pumped
went dry 9 times over 6 hr
Wt: 100 + 35 lbs

67
32

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 6/13/08 WEATHER: Cloudy & relatively warm
MONITORING WELL ID: PPA-07-51 SAMPLE ID: PPA-07-51-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 53 ft
Depth to Water (btoc): 17.35 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 49 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): 35.65 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 51 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	0900	—	Gray brown	None	—	—	—	1551	—	—
6000	0915	—	"	"	—	—	—	3432	—	—
8000	0925	—	"	"	7.05	20.89	2.372	3121	0.12	-6.8
10000	0935	—	"	"	7.04	20.75	2.327	1266	0.04	-34.4
12000	0945	—	"	"	7.07	20.28	2.300	1285	0.02	-36.7
14000	0955	—	"	"	7.07	20.18	2.280	1205	0.02	-63.2
16000	1005	—	"	"	7.07	20.16	2.306	1235	0.02	-60.6
18000	1015	—	"	"	7.08	20.12	2.291	1210	0.01	-65.8
20000	1025	—	"	"	7.07	20.08	2.283	1227	0.01	-68.5

Start Time: 0845
Stop Time: 1025
Elapsed Time: 1hr 40 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/13/08

SAMPLING DATA

Sample Date: 06/13/08
Sample Method: ~~Stainless Steel Monsoon~~ waterra
Sample Time: 1025
Sample Flow Rate: 200
Analysis: PCB 680
Date Calibrated: —

COMMENTS:

53
17
36

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

SITE NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 06/11/08 WEATHER: —
MONITORING WELL ID: PPA-06-51 SAMPLE ID: PPA-06-51-0608

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 53 ft
Depth to Water (btoc): 23.12 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 49 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 29.88 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet, Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 51 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.1 ppm
Wellbore PID/FID Reading: 0.1 ppm

PURGE DATA

Pump Type: ~~Stainless Steel~~ Monsoon Watson Hydrolift V

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1000	1000	—	Dk brown	None	6.83	22.93	2.239	Err 4	0.08	-51.4
2000	1010	—	Lt brown	"	6.91	23.77	2.252	Err 4	0.09	-67.8
3000	1020	—	"	"	6.98	23.73	2.250	Err 4	0.07	-81.2
4000	1030	—	"	"	6.96	22.79	2.247	3746	0.10	-61.8
5000	1040	—	"	"	6.95	23.17	2.245	2930	0.03	-77.0
6000	1050	—	"	"	6.97	23.37	2.240	2145	0.02	-90.1
7000	1100	—	"	"	7.00	23.56	2.242	1785	0.01	-95.9
8000	1110	—	"	"	7.02	23.39	2.241	1520	0.01	-98.5
9000	1120	—	"	"	7.00	23.45	2.245	1461	0.00	-100.0
10000	1130	—	"	"	6.97	23.38	2.241	1260	0.05	-98.6
11000	1140	—	"	"	6.97	23.30	2.234	1078	0.01	-94.4
12000	1150	—	"	"	6.99	23.39	2.236	1045	0.01	-99.3
13000	1200	—	"	"	6.99	23.43	2.236	1026	0.01	-101.2
14000	1210	—	"	"	7.00	23.41	2.239	1034	0.01	-102.4
15000	1220	—	"	"	6.99	23.46	2.241	1029	0.01	-101.2
16000	1230	—	"	"	6.99	23.39	2.242	1036	0.02	-103.9
1700	1240	—	"	"	7.00	23.49	2.240	18.27	0.01	-103.8

Start Time: 0950
Stop Time: 1240
Elapsed Time: 2hr 50 min
Average Purge Rate (mL/min): 100 mL
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/11/08

SAMPLING DATA

Sample Date: 06/11/08
Sample Method: ~~Stainless Steel~~ Monsoon Watson Hydrolift
Sample Time: 1240
Sample Flow Rate: 100
Analysis: PCB Gse
Date Calibrated:

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA
PROJECT NUMBER: 2156 2047
FIELD PERSONNEL: M. Miller
DATE: 6/11/08
WEATHER: 85° Sunny, slight breeze (10 mph)
MONITORING WELL ID: PPA-06-99
SAMPLE ID: PPA-06-99-0608

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 101 ft
Depth to Water (btoc): ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 97 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 99 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.1 ppm
Wellbore PID/FID Reading: 0.1 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Water Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
14000 ~~14500~~ 7000	1450	–	Cloudy brown	None	7.16	21.31	2.477	5186	0.13	-80.7
18000 9000	1510	–	"	"	7.11	21.19	2.568	2296	0.04	-80.0
20000 10000	1520	–	"	"	7.07	21.05	2.606	1370	0.04	-75.9
22000 11000	1530	–	"	"	7.09	20.97	2.625	859	0.04	-72.0
24000 12000	1540	–	"	"	7.06	20.94	2.631	320	0.04	-69.3
26000 13000	1550	–	"	"	7.09	20.90	2.634	190	0.02	-68.4
28000 14000	1600	–	"	"	7.05	20.87	2.633	185	0.04	-66.3
30000 15000	1610	–	"	"	7.05	20.85	2.637	189	0.04	-64.7
X2										

Start Time: 1340
Stop Time: 1610
Elapsed Time: 2 hr
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/4/08

SAMPLING DATA

Sample Date: 06/11/08
Sample Method: ~~Stainless Steel Monsoon~~ Water Hydrolift
Sample Time: 1610
Sample Flow Rate: 200
Analysis: PCB 680
Date Calibrated: –

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: ~~[illegible]~~ PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Miller
DATE: 6/13/08 WEATHER: Cloudy
MONITORING WELL ID: PPA-07-99 SAMPLE ID: PPA-07-99-060808

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 101 ft
Depth to Water (btoc): 18.10 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 97 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 82.90 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 99 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	1315	—	Dk brown	None	—	—	—	Error	—	—
6000	1330	—	Brown	"	—	—	—	4119	—	—
8000	1340	—	"	"	7.05	19.53	1.730	1206	0.02	39.5
10000	1350	—	Cloudy	"	7.03	19.48	1.725	170	0.03	37.6
12000	1400	—	"	"	7.01	19.42	1.717	176	0.04	31.7
14000	1410	—	"	"	7.00	19.38	1.716	177	0.04	28.6
16000	1420	—	"	"	7.00	19.36	1.712	177	0.04	24.6

Start Time: 1300
Stop Time: 1420
Elapsed Time: 1 hr 20 min
Average Purge Rate (mL/min): 200 mL
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/13/08

SAMPLING DATA

Sample Date: 6/13/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra
Sample Time: 1420
Sample Flow Rate: 200 mL
Analysis: PCB 680
Date Calibrated: —

COMMENTS:

101
18
83

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA
PROJECT NUMBER: 2566017
FIELD PERSONNEL: M. Miller
DATE: 6/24/08
WEATHER: Sunny 80s
MONITORING WELL ID: PPA-08-55-
SAMPLE ID: PPA-08-55-0608

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (btoc): 57 ft
Depth to Water (btoc): 2.0 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 52 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 52.90 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1000	1600	–	Cloudy brown	None	7.20	18.65	2.673	544.6	0.71	31.9
2000	1615	–	"	"	7.02	18.25	3.223	223	0.36	-5.1
3000	1620	–	Clear	"	6.98	18.28	3.240	51.5	0.35	-5.2
4000	1625	–	Clear	"	6.96	18.27	3.254	50.5	0.33	-3.8
5000	1630	–	Clear	"	6.94	18.27	3.259	49.4	~~0.3~~ 0.31	-2.1

Start Time: 1605
Stop Time: 1630
Elapsed Time: 25 min
Average Purge Rate (mL/min): 200 ml
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/24/08

SAMPLING DATA

Sample Date: 6/24/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Time: 1630
Sample Flow Rate: 200 ml/min
Analysis: PCB 680
Date Calibrated: –

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 2154 2047 FIELD PERSONNEL: M. Miller
DATE: 06/17/08 WEATHER: Sunny, 80s
MONITORING WELL ID: PPA-08-99 SAMPLE ID: PPA-08-99-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 101 ft
Depth to Water (btoc): 18.50 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 97 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 82.50 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 99 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	1290	—	Brown	slo	—	—	—	Empty	—	—
8000	1305	—	Cloudy brown	slo	7.26	21.89	1.561	1399	0.20	30.4
10000	1322	—	"	"	7.00	21.14	1.540	249	0.07	34.0
12000	1335	—	"	"	6.98	21.06	1.534	231	0.06	31.0
14000	1345	—	"	"	7.06	21.03	1.541	148	0.06	23.1
16000	1355	—	clear brown	"	7.05	20.97	1.537	170	0.06	16.5
18000	1405	—	"	"	7.04	20.94	1.536	170	0.05	9.7
20000	1415	—	"	"	7.05	20.96	1.535	168	0.05	3.6
22000	1425	—	"	"	7.04	20.90	1.532	179	0.05	10.2

Start Time: 1235
Stop Time: 1425
Elapsed Time: 1hr 50min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 06/17/08

SAMPLING DATA

Sample Date: 06/17/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Time: 1425
Sample Flow Rate: 200 mL/min
Analysis: PCB 680
Date Calibrated: ~~06/17/08~~

COMMENTS:

Col
03
1/8

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21562047 FIELD PERSONNEL: M. Mixby
DATE: 8/16/08 WEATHER: Sunny, 80's
MONITORING WELL ID: PPA-09-51 SAMPLE ID: PPA-09-51-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 53 ft
Depth to Water (btoc): 15.12 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 49 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): 37.88 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 51 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	1445	—	Dk brown	None	—	—	—	Brk	—	—
6000	1500	—	"	"	—	—	—	Brk	—	—
9000	1515	—	"	"	—	—	—	Brk	—	—
12000	1530	—	Cloudy brown	"	6.96	23.90	1.539	774	6.42	9.5
14000	1540	—	"	"	6.86	23.91	1.548	255	1.05	3.9
16000	1550	—	"	"	6.90	24.01	1.540	149	1.02	1.0
18000	1600	—	"	"	6.91	24.07	1.546	146	1.01	-6.2
20000	1610	—	"	"	6.89	24.11	1.560	143	1.04	-3.2

Start Time: 1430
Stop Time: 1610
Elapsed Time: 1 hr 40 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 8/16/08

SAMPLING DATA

Sample Date: 8/18/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Time: 1610
Sample Flow Rate: 200 ml/min
Analysis: PCB 680
Date Calibrated: —

COMMENTS:

53
15
3/8

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 21560047 FIELD PERSONNEL: M. Miller
DATE: 6/17/08 WEATHER: Sunny, 80's
MONITORING WELL ID: PPA-09-99 SAMPLE ID: PPA-09-99-0608

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 101 ft
Depth to Water (btoc): 12.10 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 97 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 88.90 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 99 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	0840	—	Cloudy brown	None	7.32	19.09	1.406	1131	0.07	58.0
5000	0850	—	"	"	6.97	18.95	1.356	713	0.07	52.7
7000	0900	—	"	"	6.96	18.84	1.318	246	0.10	45.1
9000	0910	—	"	"	6.99	18.86	1.297	238	0.12	34.6
11000	0920	—	Clear brown	"	6.99	18.80	1.285	160	0.14	24.3
13000	0930	—	"	"	7.01	18.81	1.277	167	0.15	23.6
15000	0940	—	"	"	7.02	18.82	1.270	156	0.14	23.9
17000	0950	—	"	"	7.00	18.77	1.269	161	0.15	21.2

Start Time: 0825
Stop Time: 0950
Elapsed Time: 1 hr 25 min
Average Purge Rate (mL/min): 200 mL
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/17/08

SAMPLING DATA

Sample Date: 06/17/08
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Time: 0950
Sample Flow Rate: 200 mL/min
Analysis: PCB 680
Date Calibrated: —

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 2156 2047 FIELD PERSONNEL: M. Miller
DATE: 6/16/08 WEATHER: Cloudy, 80's
MONITORING WELL ID: PPA-10-51 SAMPLE ID: PPA-10-51-0608

INITIAL DATA

Well Diameter: ~~2~~ 1 in
Total Well Depth (btoc): 53 ft
Depth to Water (btoc): 17.02 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 49 ft
Screen Length: ~~5~~ 4 ft

Water Column Height (do not include LNAPL or DNAPL): ~~44~~ 35.97 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 44 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	0850	–	Brown	None	–	–	–	Error	–	–
6000	0905	–	"	"	–	–	–	Error	–	–
9000	0920	–	Cloudy brown	"	6.24	20.97	1.523	453	0.60	58.5
12000	0930	–	"	"	6.66	20.35	1.515	236	0.12	41.3
13000	0940	–	"	"	6.77	19.44	1.499	171	0.08	41.3
15000	0950	–	Cloudy	"	6.74	19.23	1.485	93.6	0.02	15.8
16000	0955	–	Clear	"	6.70	19.13	1.482	86.5	0.03	11.5
17000	1000	–	"	"	6.72	19.12	1.479	87.3	0.03	6.5
18000	1005	–	"	"	6.72	19.13	1.475	86.2	0.03	1.1

Start Time: 0835
Stop Time: 1005
Elapsed Time: 1hr 30min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/16/08

SAMPLING DATA

Sample Date: 06/16/08
Sample Time: 1005
Analysis: PCB 680
Sample Method: ~~Stainless Steel Monsoon~~ Waterra Hydrolift II
Sample Flow Rate: 200
Date Calibrated: –

COMMENTS:

58 x 1/36.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PPA PROJECT NUMBER: 2156 2017 FIELD PERSONNEL: M. Mills
DATE: 06/16/08 WEATHER: Cloudy, 80's
MONITORING WELL ID: PPA-10-99 SAMPLE ID: PPA-10-99-0608

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (btoc): 101 ft
Depth to Water (btoc): 17.21 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 97 ft
Screen Length: 4 ft

Water Column Height (do not include LNAPL or DNAPL): 84 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 80 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: 0.1 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ~~Stainless Steel Monsoon~~ Grundfos Hydrolift II

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
3000	1055	–	Dk brown	None	–	–	–	5932	–	–
6000	1110	–	Gray brown	None	7.05	19.54	1.105	1600	0.37	55.1
9000	1120	–	"	"	6.82	19.24	1.090	692	0.04	60.5
10000	1130	–	"	"	6.97	19.07	1.082	1326	0.02	56.1
12000	1140	–	Brown	"	6.94	18.86	1.083	2170	0.01	44.5
14000	1150	–	"	"	6.94	19.95	1.083	2471	0.01	32.5
16000	1200	–	"	"	6.99	19.92	1.077	2372	0.01	23.8
18000	1210	–	"	"	7.00	19.93	1.069	1319	0.01	16.6
20000	1220	–	"	"	6.98	19.68	1.058	312	0.01	7.0
22000	1230	–	"	"	7.04	19.60	1.053	248	0.03	4.0
24000	1240	–	Cloudy	"	6.98	19.60	1.049	173	0.03	3.0
26000	1250	–	Clear	"	6.98	19.65	1.047	171	0.04	1.6
28000	1300	–	"	"	7.07	19.60	1.044	170	0.02	10.0

Start Time: 1040
Stop Time: 1300
Elapsed Time: 2 hrs, 20 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 556 and LaMotte 2020
Date Calibrated: 6/16/08

SAMPLING DATA

Sample Date:
Sample Method: ~~Stainless Steel Monsoon~~ Grundfos Hydrolift II
Sample Time: 1300
Sample Flow Rate: 200 mL/min
Analysis: PCB 680
Date Calibrated: –

COMMENTS:

Attachment A-2
Groundwater Analytical Results
(and Data Review Sheets

Solutia Krummrich Data Review

Laboratory SDG: KPM017

Reviewer: Tony Sedlacek

Date Reviewed: 7/31/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Groundwater Quality Assessment Program (2008)

Sample Identification #	Sample Identification #
PPA-01-55-0608	PPA-01-55-F-0608
PPA-01-71-0608	PPA-01-71-F-0608
PPA-06-51-0608	PPA-06-51-F-0608
PPA-06-99-0608	PPA-06-99-F-0608
PPA-02-55-0608	PPA-02-55-F-0608
PPA-02-71-0608	PPA-02-71-F-0608
PPA-07-51-0608	PPA-07-51-F-0608
PPA-07-99-0608	PPA-07-99-F-0608

1.0 Data Package Completeness

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

No, samples IDs PPA-03-55-060908 and PPA-03-55-060908-F were changed to PPA-03-55-0608 and PPA-03-55-F-0608 by the laboratory upon the request of URS after they were received at the laboratory. The extract vials for PPA-03-55-0608 and PPA-06-99-F-0608 were broken during processing at the laboratory. Insufficient volume was available for sample PPA-03-55-0608; therefore, sample PPA-03-55-0608 and its filtered sample pair PPA-03-55-F-0608 were re-sampled and submitted as part of a different SDG. Sufficient sample volume was available to re-extract sample PPA-06-99-F-0608 and sample results were provided as part of this SDG. In addition, MS/MSD samples PPA-06-99-0608 and PPA-06-99-F-0608 were collected and submitted to the laboratory for analysis. The PCB analyses for these samples were cancelled by URS.

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that sample vials were broken during laboratory processing of the samples, MS/MSD samples were collected but not analyzed and sample IDs were changed after samples were received by the laboratory as discussed in the data package completeness section above.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
N/A				

Analytical data that required qualification based on IS data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples did not require a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-37536-1	PPA-01-55-0608	Water	06/10/2008 1135	06/11/2008 1028
680-37536-2	PPA-01-55-F-0608	Water	06/10/2008 1135	06/11/2008 1028
680-37536-3	PPA-01-71-0608	Water	06/10/2008 1355	06/11/2008 1028
680-37536-4	PPA-01-71-F-0608	Water	06/10/2008 1355	06/11/2008 1028
680-37564-1	PPA-06-51-0608	Water	06/11/2008 1240	06/12/2008 1000
680-37564-2	PPA-06-51-F-0608	Water	06/11/2008 1240	06/12/2008 1000
680-37564-3	PPA-06-99--0608	Water	06/11/2008 1610	06/12/2008 1000
680-37564-4	PPA-06-99-F-0608	Water	06/11/2008 1610	06/12/2008 1000
680-37626-1	PPA-02-55-0608	Water	06/12/2008 1150	06/13/2008 1030
680-37626-2	PPA-02-55-F-0608	Water	06/12/2008 1150	06/13/2008 1030
680-37626-3	PPA-02-71-0608	Water	06/12/2008 1450	06/13/2008 1030
680-37626-4	PPA-02-71-F-0608	Water	06/12/2008 1450	06/13/2008 1030
680-37657-1	PPA-07-51-0608	Water	06/13/2008 1025	06/14/2008 0945
680-37657-2	PPA-07-51-F-0608	Water	06/13/2008 1025	06/14/2008 0945
680-37657-3	PPA-07-99-0608	Water	06/13/2008 1420	06/14/2008 0945
680-37657-4	PPA-07-99-F-0608	Water	06/13/2008 1420	06/14/2008 0945

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-01-55-0608**

Lab Sample ID: 680-37536-1
Client Matrix: Water

Date Sampled: 06/10/2008 1135
Date Received: 06/11/2008 1028

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1629
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	63	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-01-55-F-0608

Lab Sample ID: 680-37536-2
Client Matrix: Water

Date Sampled: 06/10/2008 1135
Date Received: 06/11/2008 1028

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1658
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	68	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-01-71-0608

Lab Sample ID: 680-37536-3
Client Matrix: Water

Date Sampled: 06/10/2008 1355
Date Received: 06/11/2008 1028

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1727
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	66	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-01-71-F-0608

Lab Sample ID: 680-37536-4
Client Matrix: Water

Date Sampled: 06/10/2008 1355
Date Received: 06/11/2008 1028

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1757
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	69	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-06-51-0608**

Lab Sample ID: 680-37564-1
Client Matrix: Water

Date Sampled: 06/11/2008 1240
Date Received: 06/12/2008 1000

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1502
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.18		0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	68	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-06-51-F-0608**

Lab Sample ID: 680-37564-2
Client Matrix: Water

Date Sampled: 06/11/2008 1240
Date Received: 06/12/2008 1000

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1531
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	72	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-06-99--0608

Lab Sample ID: 680-37564-3
Client Matrix: Water

Date Sampled: 06/11/2008 1610
Date Received: 06/12/2008 1000

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/20/2008 1600
Date Prepared: 06/16/2008 1351

Analysis Batch: 680-109733
Prep Batch: 680-108996

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	72	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-06-99-F-0608**

Lab Sample ID: 680-37564-4
Client Matrix: Water

Date Sampled: 06/11/2008 1610
Date Received: 06/12/2008 1000

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 2032
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	67	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-02-55-0608

Lab Sample ID: 680-37626-1
Client Matrix: Water

Date Sampled: 06/12/2008 1150
Date Received: 06/13/2008 1030

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1516
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	72	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-02-55-F-0608

Lab Sample ID: 680-37626-2
Client Matrix: Water

Date Sampled: 06/12/2008 1150
Date Received: 06/13/2008 1030

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1545
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	71	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-02-71-0608

Lab Sample ID: 680-37626-3
Client Matrix: Water

Date Sampled: 06/12/2008 1450
Date Received: 06/13/2008 1030

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1613
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	73	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: PPA-02-71-F-0608

Lab Sample ID: 680-37626-4
Client Matrix: Water

Date Sampled: 06/12/2008 1450
Date Received: 06/13/2008 1030

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1642
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	74	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-07-51-0608**

Lab Sample ID: 680-37657-1
Client Matrix: Water

Date Sampled: 06/13/2008 1025
Date Received: 06/14/2008 0945

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1838
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.26		0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	74	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-07-51-F-0608**

Lab Sample ID: 680-37657-2
Client Matrix: Water

Date Sampled: 06/13/2008 1025
Date Received: 06/14/2008 0945

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1906
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.22		0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	78	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-07-99-0608**

Lab Sample ID: 680-37657-3
Client Matrix: Water

Date Sampled: 06/13/2008 1420
Date Received: 06/14/2008 0945

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 1935
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	75	25 - 113

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Client Sample ID: **PPA-07-99-F-0608**

Lab Sample ID: 680-37657-4
Client Matrix: Water

Date Sampled: 06/13/2008 1420
Date Received: 06/14/2008 0945

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/22/2008 2004
Date Prepared: 06/18/2008 1358

Analysis Batch: 680-109778
Prep Batch: 680-109273

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	73	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-37509-1
Sdg Number: KPM017

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.

Serial Number 005684

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
PCB Groundwater Quality Assessment	21562047	IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Lidya Gulizia		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Scott Adams	314 429-0100	314 429-0462

CLIENT NAME	CLIENT E-MAIL
~~Solutia~~ URS Corporation	thomas_adams@urscorp.com

CLIENT ADDRESS: 1001 Highlands Plaza Dr St. Louis, 63011

COMPANY CONTRACTING THIS WORK (if applicable): Solutia

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	REQUIRED ANALYSIS: PCB 680	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/9/08	1230	PG-03-55-060908	G	X				X	2 (1)	Rec'd 1 L broken LG 6/10/08
6/9/08	1230	PG-03-55-0609 08-F	G	X					2	(Filter 0.45 µm)

PRESERVATIVE

Note: IDs Revised per client e-mail
→ PPA-03-55-0608
→ PPA-03-55-F-0608) Lidya 6/11/08

TEMP.: 10

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Michael Miller	6/9/08	1800	FedEx					
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	061008	0955	YES ◯ NO ◯		680-37509	

TAL8240-680 (1207)

Serial Number 005683

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
PCB Groundwater Quality Assessment	21560 2047	IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Lidya Gutson		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Jeff Adams	314 429-0100	314-429-0462

CLIENT NAME	CLIENT E-MAIL
URS Corporation	thomas.adams@urscorp.com

CLIENT ADDRESS: 1001 Highlands Plaza Dr W. Suite 300

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: PCB 680

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/10/08	1135	PPA-01-55-0608	G	X				2	
6/10/08	1135	PPA-01-55-0608-F *	G	X				2	Filter 0.45 µm
6/10/08	1355	PPA-01-71-0608	G	X				2	
6/10/08	1355	PPA-01-71-0608-F *	G	X				2	Filter 0.45 µm

* Client IDs revised per client e-mail
PPA-01-55-F-0608
PPA-01-71-F-0608
L. Gutson 6/11/08

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	6/10/08	1730						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
FedEx								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	6/11/08	1028	YES ◯ NO ◯		680-37530	3.6°C

TAL8240-680 (1207)

Serial Number 005691

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: PCB Groundwater Quality Assessment	PROJECT NO.: 21562047	PROJECT LOCATION (STATE): IL
TAL (LAB) PROJECT MANAGER: Lydya Golitsin	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Scott Adams	CLIENT PHONE: 314 429-0100	CLIENT FAX: 314 429-0462
CLIENT NAME: URS Corporation	CLIENT E-MAIL: thomas_adams@urscorp.com	
CLIENT ADDRESS: 1001 Highlands Plaza Dr Suite 300, St. Louis, MO 63110		
COMPANY CONTRACTING THIS WORK (if applicable): Solutia		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 2

REQUIRED ANALYSIS: PCB 680

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/11/08	1240	PPA-06-51-0608	G	X				2	
6/11/08	1240	PPA-06-51-F-0608	G	X				2	
6/11/08	1610	PPA-06-99-0608	G	X				2	
6/11/08	1610	PPA-06-99-F-0608	G	X				2	
6/11/08	1610	PPA-06-99-0608-MS	G	X				2	
6/11/08	1610	PPA-06-99-F-0608-MS	G	X				2	
6/11/08	1610	PPA-06-99-0608-MSD	G	X				2	
6/11/08	1610	PPA-06-99-F-0608-MSD	G	X				2	

TEMP.: 1.0/2.6

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	6/11/08	1830						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex								

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	061208	1000	YES ○ NO ○		608-37564	

TAL8240-680 (1207)

Serial Number 005689

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE 1 OF 1
PCB Groundwater Quality Assessment	21562047	DL	
TAL (LAB) PROJECT MANAGER: Lidya Golden	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ☒
CLIENT (SITE) PM: Scott Adams	CLIENT PHONE: 314 429-0100	CLIENT FAX: 314 429-0462	DATE DUE
CLIENT NAME: URS Corporation	CLIENT E-MAIL: thomas_adams@urscorp.com		EXPEDITED REPORT DELIVERY (SURCHARGE) ☐
CLIENT ADDRESS: 1001 Highlands Plaza Dr, Suite 300, St Louis, MO 63110			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable): Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

PRESERVATIVE: ACS Grade

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/12/08	1150	PPA-02-55-0608	G	X				2	
6/12/08	1150	~~PPA-02-55-F-0608~~ PPA-02-55-F-0608	G	X				2	Filter (0.45 µm)
6/12/08	1450	PPA-02-71-0608	G	X				2	
6/12/08	1450	PPA-02-71-F-0608	G	X				2	Filter (0.45 µm)

TEMP.: 3.1

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	06/12/08	1730						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	061308	1030	YES ☐ NO ☐		6813376	

TAL8240-680 (1207)

Serial Number 005688

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
PCB Groundwater Quality Assessment	21562047	IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Lidya Golitsin		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Scott Adams	314 429-0100	314 429-0462

CLIENT NAME	CLIENT E-MAIL
URS Corporation	thomas_adams@urscorp.com

CLIENT ADDRESS: 1001 Highlands Plaza Dr, Suite 300, St Louis, MO 63110

COMPANY CONTRACTING THIS WORK (if applicable): Solutia

PAGE 1 OF 1

STANDARD REPORT DELIVERY ☒

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	REQUIRED ANALYSIS: PCB 680	REMARKS
								PRESERVATIVE	
								NUMBER OF CONTAINERS SUBMITTED	
6/13/08	1025	PPA-07-51-0608	G	X				2	
6/13/08	1025	PPA-07-51-F-0608	G	X				2	
6/13/08	1420	PPA-07-99-0608	G	X				2	
6/13/08	1420	PPA-07-99-F-0608	G	X				2	

TEMP: 4.4

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	6/13/08	1700						
RECEIVED BY: (SIGNATURE) Fred Rx	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	061408	0945	YES ○ NO ○		68037657	

TAL8240-680 (1207)

Solutia Krummrich Data Review

Laboratory SDG: KPM018

Reviewer: Tony Sedlacek

Date Reviewed: 7/31/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Groundwater Quality Assessment Program (2008)

Sample Identification #	Sample Identification #
PPA-10-51-0608	PPA-10-51-F-0608
PPA-10-99-0608	PPA-10-99-F-0608
PPA-09-51-0608	PPA-09-51-F-0608
PPA-09-99-0608	PPA-09-99-F-0608
PPA-08-99-0608	PPA-08-99-F-0608
PPA-05-55-0608	PPA-05-55-F-0608
PPA-05-67-0608	PPA-05-67-F-0608

1.0 Data Package Completeness

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

No, samples PPA-03-55-0608-R, PPA-03-55-F-0608-R, PPA-03-67-0608 and PPA-03-67-F-0608 were collected but were not analyzed as per URS.

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that samples were collected and not analyzed as per URS request. Also, PCB internal standard recoveries were outside evaluation criteria.

The cooler receipt form indicated that one out of two 1-L ambers for samples PPA-09-99-0608, PPA-08-99-0608 and PPA-09-99-F-0608 were received broken by the laboratory. Sufficient sample volume was available to complete all requested analyses.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
PPA-05-67-0608	PCBs	Chrysene-d_{12}	**122208**	53792-99900
PPA-05-67-F-0608	PCBs	Phenanthrene-d_{10}	**140434**	68885-127929
PPA-05-67-F-0608	PCBs	Chrysene-d_{12}	**143773**	53792-99900
PPA-05-55-0608	PCBs	Chrysene-d_{12}	**123287**	53792-99900
PPA-05-55-F-0608	PCBs	Chrysene-d_{12}	**115365**	53792-99900

Analytical data that required qualification based on IS data are included in the table below. Analytical data which were reported as nondetect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Internal standard areas for Phenanthrene-d_{10} and chrysene-d_{12} recovered within the initial calibration average internal standard area for samples PPA-05-67-0608, PPA-05-67-F-0608, PPA-05-55-0608 and PPA-05-55-F-0608; therefore, no qualification of data was required.

Field ID	Parameter	Analyte	Qualification
N/A			

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples did not require a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-37696-1	PPA-10-51-0608	Water	06/16/2008 1005	06/17/2008 0904
680-37696-2	PPA-10-51-F-0608	Water	06/16/2008 1005	06/17/2008 0904
680-37696-3	PPA-10-99-0608	Water	06/16/2008 1300	06/17/2008 0904
680-37696-4	PPA-10-99-F-0608	Water	06/16/2008 1300	06/17/2008 0904
680-37696-5	PPA-09-51-0608	Water	06/16/2008 1610	06/17/2008 0904
680-37696-6	PPA-09-51-F-0608	Water	06/16/2008 1610	06/17/2008 0904
680-37733-1	PPA-09-99-0608	Water	06/17/2008 0950	06/18/2008 0957
680-37733-2	PPA-09-99-F-0608	Water	06/17/2008 0950	06/18/2008 0957
680-37733-3	PPA-08-99-0608	Water	06/17/2008 1425	06/18/2008 0957
680-37733-4	PPA-08-99-F-0608	Water	06/17/2008 1425	06/18/2008 0957
680-37790-1	PPA-03-55-0608-R	Water	06/18/2008 1320	06/19/2008 0950
680-37790-2	PPA-03-55-F-0608-R	Water	06/18/2008 1220	06/19/2008 0950
680-37790-3	PPA-03-67-0608	Water	06/18/2008 1540	06/19/2008 0950
680-37790-4	PPA-03-67-F-0608	Water	06/18/2008 1540	06/19/2008 0950
680-37843-1	PPA-05-55-0608	Water	06/19/2008 1310	06/20/2008 0905
680-37843-2	PPA-05-55-F-0608	Water	06/19/2008 1310	06/20/2008 0905
680-37888-1	PPA-05-67-0608	Water	06/20/2008 1115	06/21/2008 0947
680-37888-2	PPA-05-67-F-0608	Water	06/20/2008 1115	06/21/2008 0947

Collected but not analyzed

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-10-51-0608**

Lab Sample ID: 680-37696-1
Client Matrix: Water

Date Sampled: 06/16/2008 1005
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/24/2008 1132
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109866
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	58	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-10-51-F-0608

Lab Sample ID: 680-37696-2
Client Matrix: Water

Date Sampled: 06/16/2008 1005
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/24/2008 1201
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109866
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	67	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-10-99-0608

Lab Sample ID: 680-37696-3
Client Matrix: Water

Date Sampled: 06/16/2008 1300
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/24/2008 1229
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109866
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	73	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-10-99-F-0608**

Lab Sample ID: 680-37696-4
Client Matrix: Water

Date Sampled: 06/16/2008 1300
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 1842
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	73	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-09-51-0608

Lab Sample ID: 680-37696-5
Client Matrix: Water

Date Sampled: 06/16/2008 1610
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 1911
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	55	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-09-51-F-0608

Lab Sample ID: 680-37696-6
Client Matrix: Water

Date Sampled: 06/16/2008 1610
Date Received: 06/17/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 1939
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	62	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-09-99-0608**

Lab Sample ID: 680-37733-1
Client Matrix: Water

Date Sampled: 06/17/2008 0950
Date Received: 06/18/2008 0957

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/24/2008 1258
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109866
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.99		0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	67	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-09-99-F-0608**

Lab Sample ID: 680-37733-2
Client Matrix: Water

Date Sampled: 06/17/2008 0950
Date Received: 06/18/2008 0957

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 2037
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	64	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-08-99-0608

Lab Sample ID: 680-37733-3
Client Matrix: Water

Date Sampled: 06/17/2008 1425
Date Received: 06/18/2008 0957

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 2106
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	70	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-08-99-F-0608**

Lab Sample ID: 680-37733-4
Client Matrix: Water

Date Sampled: 06/17/2008 1425
Date Received: 06/18/2008 0957

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/23/2008 2135
Date Prepared: 06/20/2008 1320

Analysis Batch: 680-109791
Prep Batch: 680-109509

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	63	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-05-55-0608

Lab Sample ID: 680-37843-1
Client Matrix: Water

Date Sampled: 06/19/2008 1310
Date Received: 06/20/2008 0905

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/30/2008 1429
Date Prepared: 06/25/2008 1403

Analysis Batch: 680-110741
Prep Batch: 680-109880

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1050 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.11		0.095
Dichlorobiphenyl	0.095	U	0.095
Trichlorobiphenyl	0.095	U	0.095
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.48	U	0.48
DCB Decachlorobiphenyl	0.48	U	0.48

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	62	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-05-55-F-0608**

Lab Sample ID: 680-37843-2
Client Matrix: Water

Date Sampled: 06/19/2008 1310
Date Received: 06/20/2008 0905

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/30/2008 1250
Date Prepared: 06/25/2008 1403

Analysis Batch: 680-110741
Prep Batch: 680-109880

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1050 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.095	U	0.095
Dichlorobiphenyl	0.095	U	0.095
Trichlorobiphenyl	0.095	U	0.095
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.48	U	0.48
DCB Decachlorobiphenyl	0.48	U	0.48

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	67	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: PPA-05-67-0608

Lab Sample ID: 680-37888-1
Client Matrix: Water

Date Sampled: 06/20/2008 1115
Date Received: 06/21/2008 0947

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/30/2008 1331
Date Prepared: 06/25/2008 1403

Analysis Batch: 680-110741
Prep Batch: 680-109880

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1050 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.095	U	0.095
Dichlorobiphenyl	0.095	U	0.095
Trichlorobiphenyl	0.095	U	0.095
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.48	U	0.48
DCB Decachlorobiphenyl	0.48	U	0.48

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	64	25 - 113

Client: Solutia Inc.

Job Number: 680-37696-1
Sdg Number: KPM018

Client Sample ID: **PPA-05-67-F-0608**

Lab Sample ID: 680-37888-2
Client Matrix: Water

Date Sampled: 06/20/2008 1115
Date Received: 06/21/2008 0947

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 06/30/2008 1400
Date Prepared: 06/25/2008 1403

Analysis Batch: 680-110741
Prep Batch: 680-109880

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1050 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.095	U	0.095
Dichlorobiphenyl	0.095	U	0.095
Trichlorobiphenyl	0.095	U	0.095
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.48	U	0.48
DCB Decachlorobiphenyl	0.48	U	0.48

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	56	25 - 113

Serial Number 005687

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: PCB Groundwater Quality Assessment	PROJECT NO.: 21562047	PROJECT LOCATION (STATE): DL	PAGE 1 OF 1
TAL (LAB) PROJECT MANAGER: Lidya Bolozin	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ✓
CLIENT (SITE) PM: Scott Adams	CLIENT PHONE: 314 429-0100	CLIENT FAX: 314 429-0462	DATE DUE
CLIENT NAME: URS Corporation	CLIENT E-MAIL: thomas_adams@urscorp.com		EXPEDITED REPORT DELIVERY (SURCHARGE)
CLIENT ADDRESS: 2001 Highlands Plaza Dr, Suite 300, St. Louis, MO 63110			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable): Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 2

REQUIRED ANALYSIS: PCB 680

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/16/08	1005	PPA-10-51-0608	G	X				2	
	1005	PPA-10-51-F-0608	G	X				2	
	1300	PPA-10-99-0608	G	X				2	
	1300	PPA-10-99-F-0608	G	X				2	
	1610	PPA-09-51-0608	G	X				2	
	1610	PPA-09-51-F-0608	G	X				2	

TEMP. 2.4 / 2.6

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	6/16/08	1800						
RECEIVED BY: (SIGNATURE) FedEx	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	061708	0904	YES ○ NO ○		68037696	

TAL 8240-680 (1207)

Serial Number 005690

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

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Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE Quality PCB Groundwater Assessment	PROJECT NO. 21562047	PROJECT LOCATION (STATE)	PAGE 1 OF 1
TAL (LAB) PROJECT MANAGER Lidya Gulizia	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ✓
CLIENT (SITE) PM Jeff Adams	CLIENT PHONE 314 429-0200	CLIENT FAX 314 439-0462	DATE DUE
CLIENT NAME URS Corporation	CLIENT E-MAIL thomas_adams@urscorp.com		EXPEDITED REPORT DELIVERY (SURCHARGE)
CLIENT ADDRESS 1001 Highlands Plaza Dr, Suite 300, St. Louis, MO 63110			DATE DUE
COMPANY CONTRACTING THIS WORK (If applicable) Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS: PCB 680

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
6/17/08	0950	PPA-09-99-0608	G	X				2	
	0950	PPA-09-99-F-0608	G	X				2	
	1425	PPA-08-99-0608	G	X				2	
	1425	PPA-08-99-F-0608	G	X				2	

TEMP 4°C

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	6/17/08	1700						
RECEIVED BY: (SIGNATURE) FedEx	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	061808	0957	YES ○ NO ○		680-~~37732~~ 37733	

TAL 8240-680 (1002)

TestAmerica 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

Client Information	Sampler: M. Miller	Lab PM: Gulizia, Lidya	Carrier Tracking No(s):	COC No: 680-16615.2
Client Contact: ~~Mr. Bob Billman~~ Scott Adams	Phone:	E-Mail: lidya.gulizia@testamericainc.com		Page: ~~Page 2 of 7~~ 1 of 1
Company: URS Corporation				Job #:
Address: 1001 Highlands Plaza Drive West Suite 300	Due Date Requested:			Preservation Codes:
City: St. Louis	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
State, Zip: MO, 63110				M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Phone: 314.429.0100(Tel)	PO #: ~~4503576253~~			Other:
Email: ~~bob_billman@urscorp.com~~ thomas_adams@urscorp.com	WO #: ~~21604043~~ 21562047			
Project Name: ~~WCK Plume Stability Monitoring Plan 2008~~ RCB Groundwater Quality Assessment	Project #: ~~68001754~~			
Site: WCK Site	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PCB 608	Total Number of Containers	Special Instructions/Note:
			Preservation Code:						
PPA-03-55-0608-R	6-18-08	1220	G	W			2		
PPA-03-55-F-0608-R	↑	1220	G	W			2		
PPA-03-67-0608		1540	G	W			2		
PPA-03-67-F-0608	↓	1540	G	W			2		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	6/18/08 1800	URS	FedEx		
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 6/19/08 1550	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3°C 680-377790

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Mr. Miller	Lab PM: Gulizia, Lidya	Carrier Tracking No(s):	COC No: 680-16615.4
Client Contact: ~~Mr. Bob Billman~~ Seth Adams	Phone: 314 429 0100	E-Mail: lidya.gulizia@testamericainc.com		Page: Page 4 of 7 1 of 1
Company: URS Corporation				Job #: 21562047
Address: 1001 Highlands Plaza Drive West Suite 300	Due Date Requested:			
City: St. Louis	TAT Requested (days):			
State, Zip: MO, 63110				
Phone: 314.429.0100(Tel)	PO #: ~~4503575258~~			
Email: ~~bob_billman@urscorp.com~~ thomas_adams@urscorp.com	WO #: ~~21561618~~ 21562047			
Project Name: ~~WQIS Plume Stability Monitoring Plan 2008~~ PES brownfield water Quality Assessment	Project #: ~~60004754~~			
Site: WSR Saints	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PCB 8082	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PPA-05-55-0608	6/19/08	1310	G	W				2	
PPA-05-55-F-0608	6/19/08	1310	G	W		X		2	

680-37843

TEMP: 0.6

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Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/19/08 1700	Company: URS	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 06/20/08 0905	Company: TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

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Savannah, GA 31404
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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: M. Miller	Lab PM: Gulizia, Lidya	Carrier Tracking No(s):	COC No: 680-16615.3
Client Contact: ~~Mr. Bob Dillman~~ Thomas Adams	Phone: 314 429-0100	E-Mail: lidya.gulizia@testamericainc.com		Page: ~~Page 8 of 7~~ 1 of 1
Company: URS Corporation				Job #: 21562047
Address: 1001 Highlands Plaza Drive West Suite 300	Due Date Requested:			
City: St. Louis	TAT Requested (days):			
State, Zip: MO, 63110				
Phone: 314.429.0100(Tel)	PO #: ~~4503575259~~			
Email: ~~bob.dillman@urscorp.com~~ thomas_adams@urscorp.com	WO #: ~~21561016~~ 21562047			
Project Name: ~~WGK Plume Stability Monitoring Plan 2008~~ PCB Groundwater Quarterly Assessment	Project #: ~~68001754~~			
Site: WGK Solutia	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PCB 608	Total Number of containers	Special Instructions/Note:
Preservation Code:									
PPA-05-67-0608	6/20/08	1115	G	W			3		
PPA-05-67-F-0608	6/20/08	1115	G	W	X		3		
									TEMP: 7.6
									680-37888

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Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date: ~~6/20/08~~	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/20/08 / 1700	Company: URS	Received by: FedEx	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 06/21/08 0947	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Solutia Krummrich Data Review

Laboratory SDG: KPM021

Reviewer: Tony Sedlacek

Date Reviewed: 7/31/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Groundwater Quality Assessment Program (2008)

Sample Identification #	Sample Identification #
PPA-04-55-0608	PPA-04-55-F-0608
PPA-04-67-0608	PPA-04-67-F-0608
PPA-03-55-0608	PPA-03-55-F-0608
PPA-03-67-0608	PPA-03-67-F-0608
PPA-08-55-0608	PPA-08-55-F-0608

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

The laboratory case narrative and cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
N/A				

Analytical data that required qualification based on IS data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples did not require a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-37967-1	PPA-04-55-0608	Water	06/23/2008 0000	06/25/2008 0909
680-37967-2	PPA-04-55-F-0608	Water	06/23/2008 0000	06/25/2008 0909
680-37967-3	PPA-04-67-0608	Water	06/23/2008 0000	06/25/2008 0909
680-37967-4	PPA-04-67-F-0608	Water	06/23/2008 0000	06/25/2008 0909
680-38025-1	PPA-03-55-0608	Water	06/24/2008 1050	06/26/2008 0919
680-38025-2	PPA-03-55-F-0608	Water	06/24/2008 1050	06/26/2008 0919
680-38025-3	PPA-03-67-0608	Water	06/24/2008 1430	06/26/2008 0919
680-38025-4	PPA-03-67-F-0608	Water	06/24/2008 1430	06/26/2008 0919
680-38025-5	PPA-08-55-0608	Water	06/24/2008 1630	06/26/2008 0919
680-38025-6	PPA-08-55-F-0608	Water	06/24/2008 1630	06/26/2008 0919

SAMPLE RESULTS

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-04-55-0608

Lab Sample ID: 680-37967-1
Client Matrix: Water

Date Sampled: 06/23/2008 0000
Date Received: 06/25/2008 0909

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1703
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.45		0.097
Dichlorobiphenyl	0.12		0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	64	25 - 113

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-04-55-F-0608

Lab Sample ID: 680-37967-2
Client Matrix: Water

Date Sampled: 06/23/2008 0000
Date Received: 06/25/2008 0909

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1732
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	62	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-04-67-0608

Lab Sample ID: 680-37967-3
Client Matrix: Water

Date Sampled: 06/23/2008 0000
Date Received: 06/25/2008 0909

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1801
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.18		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	63	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-04-67-F-0608

Lab Sample ID: 680-37967-4
Client Matrix: Water

Date Sampled: 06/23/2008 0000
Date Received: 06/25/2008 0909

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1830
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	51	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-03-55-0608

Lab Sample ID: 680-38025-1
Client Matrix: Water

Date Sampled: 06/24/2008 1050
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1859
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	66	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-03-55-F-0608

Lab Sample ID: 680-38025-2
Client Matrix: Water

Date Sampled: 06/24/2008 1050
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1928
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	70	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-03-67-0608

Lab Sample ID: 680-38025-3
Client Matrix: Water

Date Sampled: 06/24/2008 1430
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 2025
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.17		0.097
Dichlorobiphenyl	0.21		0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	72	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-03-67-F-0608

Lab Sample ID: 680-38025-4
Client Matrix: Water

Date Sampled: 06/24/2008 1430
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 1957
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	69	25 - 113

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-08-55-0608

Lab Sample ID: 680-38025-5
Client Matrix: Water

Date Sampled: 06/24/2008 1630
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 2054
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	64	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Client Sample ID: PPA-08-55-F-0608

Lab Sample ID: 680-38025-6
Client Matrix: Water

Date Sampled: 06/24/2008 1630
Date Received: 06/26/2008 0919

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 07/07/2008 2123
Date Prepared: 06/30/2008 1414

Analysis Batch: 680-111090
Prep Batch: 680-110285

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	56	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-37967-1
Sdg Number: KPM021

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.

CHAIN OF CUSTODY RECORD

SHEET 1 of 1

URS CORPORATION

1001 HIGHLAND PLAZA DRIVE WEST, SUITE 300
ST. LOUIS, MISSOURI 63110
314-429-0100

URS Project Manager: Thomas Adamy
TestAmerica Project Manager: Lidya Gulizia

PROJECT NO:	PROJECT NAME:
21562047	PCB Groundwater Quality Assessment

SAMPLER'S: (Signature)

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	PCB 6860					REMARKS
6/23/08		PPA-04-55-0608	3	X					
		PPA-04-55-F-0608	3	X					Field Filtered 0.45µm
		PPA-04-67-0608	4	X					
		PPA-04-67-F-0608	2	X					Field Filtered 0.45µm

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
	6/23/08 / 1800	FedEx	
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME

METHOD OF SHIPMENT:	AIRBILL NO:
FedEx	

CHAIN OF CUSTODY RECORD

SHEET 1 of 1

URS CORPORATION

1001 HIGHLAND PLAZA DRIVE WEST, SUITE 300
ST. LOUIS, MISSOURI 63110
314-429-0100

URS PM: Jeff Adams
TestAmerica PM: Lidya Gulizia

PROJECT NO: 21562047

PROJECT NAME: PCB Groundwater Quality Assessment

SAMPLER'S: (Signature)

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	PCB 680					REMARKS
6/24/08	1050	PPA-03-55-0608	3	X					
	1050	PPA-03-55-F-0608	3	X					Field Filtered 0.45 µm
	1430	PPA-03-67-0608	3	X					
	1430	PPA-03-67-F-0608	3	X					Not Filtered in field
	1630	PPA-08-55-0608	3	X					
	1630	PPA-08-55-F-0608	3	X					Field Filtered 0.45 µm
									2.0/1.3/4.2/3.1
									TEMP.:
									680-37025

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
	6/25/08 1800	FedEx	
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
			062608 0917
METHOD OF SHIPMENT:		AIRBILL NO:	

Attachment A-3
Borings Logs

KEY TO BORING LOGS

SUBSURFACE MATERIAL LEGEND

	Graphic Symbol	Description	USCS Classification
GRAVEL		GRAVEL with little or no fines	GP or GW
GRAVEL		Silty GRAVEL	GM
GRAVEL		Clayey GRAVEL	GC
GRAVEL		SAND and GRAVEL	SP/GP
SAND		SAND with little or no fines	SP or SW
SAND		Silty SAND	SM
SAND		Clayey SAND	SC
LOW PLASTIC SILTS AND CLAYS		Inorganic low plastic SILT	ML
LOW PLASTIC SILTS AND CLAYS		Inorganic low plastric CLAY	CL
LOW PLASTIC SILTS AND CLAYS		Organic low plastic SILT or CLAY	OL
LOW PLASTIC SILTS AND CLAYS		Inorganic high plastic SILT	MH
LOW PLASTIC SILTS AND CLAYS		Inorganic high plastric CLAY	CH
LOW PLASTIC SILTS AND CLAYS		Organic high plastic SILT or CLAY	OH
ROCKS		LIMESTONE	
SURFACE MATERIALS		FILL	

WELL CONSTRUCTION LEGEND

	Concrete with SS 304 Stainless Steel riser pipe
	Grout with SS 304 Stainless Steel riser pipe
	Bentonite chip seal with SS 304 Stainless Steel riser pipe
	12/30 silica filter sand with SS 304 Stainless Steel riser pipe
	12/30 silica filter sand with 0.010 inch slot size SS 304 Stainless Steel well screen
	12/30 silica filter sand
	Native Backfill

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW05M

Start Date: 8/12/08 Completion Date: 8/12/08
Coordinates: Northing:703692.43 Easting:2295455.21
Boring Location: Sauget, Illinois
Ground Elevation: 411.27
Casing Elevation: 410.97

Depth In feet	Inches Driven	Inches Recovered	PID (ppm)	USCS	DESCRIPTION	NOTES
	72	72	0.0	FILL	Dry, light gray, sandy GRAVEL (FILL)	
			0.0		Soft, moist, light brown, sandy CLAY (FILL)	
			0.4		Medium dense, moist, dark brown, sandy GRAVEL (FILL), with cinders	
5				CL	Soft, moist, light yellow, sandy CLAY (CL)	Possible sulfur
			0.0		Becomes medium stiff, grayish brown	
10	120	120	0.0	SP	Medium dense, moist, gray, poorly graded, fine grained SAND (SP)	
				SC	Medium dense, moist, gray, fine grained, clayey SAND (SC)	
15			2.8	SP	Medium dense, moist, gray, fine grained SAND (SP)	
				SC	Dense, moist, gray, fine grained, clayey SAND (SC)	
			3.8	SP	Medium dense, wet, gray, poorly graded, fine to medium grained SAND (SP), trace coarse sand and gravel	Trace hydrocarbon odor
20	120	120	30.1			
			63.6			

Completion Depth: 57.17 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

Water Depth: 16 ft., After ATD hrs.
Water Depth: 9.12 ft., After AD hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

URS

Unified Soil Classification based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW05M

Start Date: 8/12/08 Completion Date: 8/12/08
Coordinates: Northing:703692.43 Easting:2295455.21
Boring Location: Sauget, Illinois
Ground Elevation: 411.27
Casing Elevation: 410.97

Depth in feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
								SAME: Medium dense, wet, gray, poorly graded, fine to medium grained SAND (SP), trace coarse sand and gravel Trace wood	
				174					
30		.120	120	278					
				85.1					
35							SP		
								Grades to fine grained silty SAND	
				474					
								Grades to fine to medium grained	
40		120	120	58.8					
				2.2					
45								Becomes dense, brownish gray	
				2.9			SP		

Completion Depth: 57.17 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

Water Depth: 16 ft., After ATD hrs.
Water Depth: 9.12 ft., After AD hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
■ Splitspoon Sampler
◧ Rotosonic - 4" Core Barrel
⊠ Geoprobe Sampler
◧ Air Knife/Hand Auger Sampler
⊞ Air Rotary

Unified Soil Classification based on field visual observations

URS

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW05M

Start Date: 8/12/08 Completion Date: 8/12/08
Coordinates: Northing:703692.43 Easting:2295455.21
Boring Location: Sauget, Illinois
Ground Elevation: 411.27
Casing Elevation: 410.97

Depth in feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
55		120	120	5.6			SP	SAME: Dense, wet, brownish gray, poorly graded, fine to medium grained SAND (SP)	
				4.4					
		14	0						
60								Bottom of boring at 57.17 feet bgs. Well installed at 57.17 feet - see well construction log.	
65									
70									

Completion Depth: 57.17 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

URS

Water Depth: 16 ft., After ATD hrs.
Water Depth: 9.12 ft., After AD hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

Unified Soil Classification based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW06D

Start Date: 8/13/08 Completion Date: 8/14/08
Coordinates: Northing:703270.39 Easting:2294662.46
Boring Location: Sauget, Illinois
Ground Elevation: 407.63
Casing Elevation: 407.32

Depth In feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
							FILL	Medium stiff, dry, light brownish gray, sandy SILT (FILL), with gravel	
				0.0				Medium stiff, moist, brown, low plasticity sandy CLAY (FILL)	
		72	72				CH	Very stiff, moist, brownish gray, high plasticity CLAY (CH)	
				0.0			CL	Soft to medium stiff, very moist, gray, low plasticity Sandy CLAY (CL)	
5									
				0.0			SP	Medium dense, wet, gray, poorly graded, fine to medium grained SAND (SP)	Hydrocarbon odor
10		120	120	30.0					
				93.7					
15									
				95.0				Trace gravel and wood	
20		120	120	74.5					
				77.1					

Completion Depth: 106.00 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

URS

Water Depth: ____ ft., After ____ hrs.
Water Depth: ____ ft., After ____ hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

Unified Soil Classification based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW06D

Start Date: 8/13/08 Completion Date: 8/14/08
Coordinates: Northing:703270.39 Easting:2294662.46
Boring Location: Sauget, Illinois
Ground Elevation: 407.63
Casing Elevation: 407.32

Depth In feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
								Dense, wet, dark gray, fine to medium grained SAND (SP), with coarse sand, trace gravel and wood	
								Becomes gray, trace coarse sand, no gravel and wood	Hydrocarbon odor
				13.1					
30		120	120	172					
				0.0					
35									No hydrocarbon odor
				0.0			SP		
40		120	120	0.0				Becomes medium to coarse grained, trace gravel and fine grained sand Becomes fine to medium grained, trace coarse sand	
				0.0				Grading to fine grained silty SAND	
45							SP		
				0.0					

Completion Depth: 106.00 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

URS

Water Depth: ____ ft., After ____ hrs.
Water Depth: ____ ft., After ____ hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

Unified Soil Classification based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW06D

Start Date: 8/13/08 Completion Date: 8/14/08
Coordinates: Northing:703270.39 Easting:2294662.46
Boring Location: Sauget, Illinois
Ground Elevation: 407.63
Casing Elevation: 407.32

Depth in feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
		120	120	0.0			SP	SAME: Dense, wet, gray, poorly graded, fine to medium grained SAND (SP), trace coarse sand Becomes medium to coarse grained, trace gravel	
				0.0			SM	Dense, wet, gray, fine grained silty SAND (SM)	
55							SP	Dense, wet, gray, poorly graded, medium to coarse grained SAND (SP), with gravel, trace fine sand With wood Becomes light gray, fine to medium grained SAND (SP), trace coarse sand	
				0.0					
60		120	120	0.0					
				0.0					
65							SP	Medium dense, wet, brownish gray, poorly graded, medium to coarse grained SAND (SP), trace coarse gravel and fine grained sand Dense, wet, grayish brown, poorly graded, fine to medium SAND (SP), trace coarse sand and gravel	
				0.0					
70		120	120	0.0					
				0.0				Becomes Medium dense, medium to coarse grained, trace coarse gravel and fine grained sand	

Completion Depth: 106.00 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

URS

Water Depth: ____ ft., After ____ hrs.
Water Depth: ____ ft., After ____ hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

Unified Soil Classification based on field visual observations

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW06D

Start Date: 8/13/08 Completion Date: 8/14/08
Coordinates: Northing:703270.39 Easting:2294662.46
Boring Location: Sauget, Illinois
Ground Elevation: 407.63
Casing Elevation: 407.32

Depth in feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
								SAME: Medium dense, wet, grayish brown, poorly graded, medium to coarse grained SAND (SP), trace coarse gravel and fine grained sand	
				2.7					
80		120	120	5.1					
				3.1					
85							SP		
				5.7					
90		120	120	0.0					
				0.0					
95									
				5.7					

Completion Depth: 106.00 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

URS

Water Depth: ____ ft., After ____ hrs.
Water Depth: ____ ft., After ____ hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

Unified Soil Classification based on field visual observations

URS (ENVIRON) LOG + 1 WELL ROTOSONIC 21562047.00001.GPJ URSSTLEV.GDT 10/30/08

LOG OF BORING AND WELL CONSTRUCTION DETAIL
PMAMW06D

Start Date: 8/13/08 Completion Date: 8/14/08 Coordinates: Northing:703270.39 Easting:2294662.46

Boring Location: Sauget, Illinois Ground Elevation: 407.63 Casing Elevation: 407.32

Depth in feet	Well Construction	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
105		120	120	2.4 0.0			CL	SAME: Medium dense, wet, grayish brown, poorly graded, medium to coarse grained SAND (SP), trace coarse gravel and fine grained sand Very stiff, moist, gray, medium plasticity sandy CLAY (CL), trace gravel	
110 115 120								Bottom of boring at 106.00 feet bgs. Well installed at 101.49 feet - see well construction log.	

Completion Depth: 106.00 ft bgs
Project No.: 21562047
Project Name: WGK PCB Groundwater Quality Assessment
Drilling Contractor: Boart Longyear
Drilling method: Rotosonic Rig Type: Rotosonic
Drilled by:
Logged by: M. Corbett

Water Depth: ____ ft., After ____ hrs.
Water Depth: ____ ft., After ____ hrs.
Water level at time of drilling
Water level after drilling
ATD - At time of drilling
Splitspoon Sampler
Rotosonic - 4" Core Barrel
Geoprobe Sampler
Air Knife/Hand Auger Sampler
Air Rotary

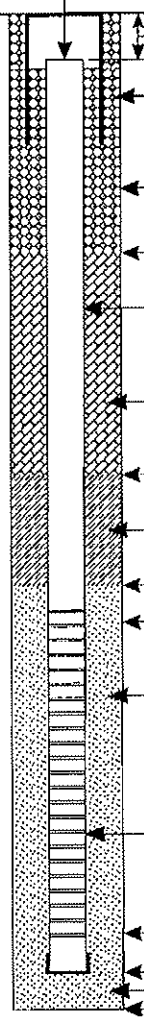
URS

Unified Soil Classification based on field visual observations

Attachment A-4
Monitoring Well Construction Diagrams

Project: WGK PCB Groundwater Quality Assessment Project Location: Sauget, IL Project Number: 21562047	MONITORING WELL CONSTRUCTION LOG FOR WELL PMAMW05M

Well Location	Sauget, IL	Date(s) Installed 08/12/2008	Time
Installed By	Observed By M. Corbett	Total Depth (ft) 57.17 ft bgs	
Method of Installation	Rotosonic		
Screened Interval 51.97 - 56.97	Completion Zone Medium Hydrogeologic Unit		
Remarks	Screen Eelevation: 359.00 - 354.00		



Elevation of Top of Riser Pipe: 410.97 ft NAVD 88

Depth of Riser Below Ground Surface: 0.30 ft

Ground Elevation: 411.27 ft NAVD 88

ID/Type of Surface Casing: **Flush Mount**

Type of Surface Seal: **Cement**

Depth of Surface Seal: 3.00 ft bgs

ID/Type of Riser Pipe: **2" Stainless Steel - SS304**

Boring Diameter: 6 inches

Type of Backfill: **Cement-Bentonite Grout**

Depth of Seal: 46.00 ft bgs

Type of Seal: **Bentonite Chips**

Depth of Top of Filter Pack: 50.00 ft bgs

Depth of Top of Screen: 51.97 ft bgs

Type of Filter Pack: **12/30 Silica Sand**

ID/Type of Screen: **2" Stainless Steel - SS304**
Screen Slot Size: **0.010"**

Depth of Bottom of Screen: 56.97 ft bgs

Depth of Bottom of Plugged Blank Casing: 56.97 ft bgs

Type/Depth of Backfill/Seal Below Well: **0.20 ft of 12/30 Silica Sand**

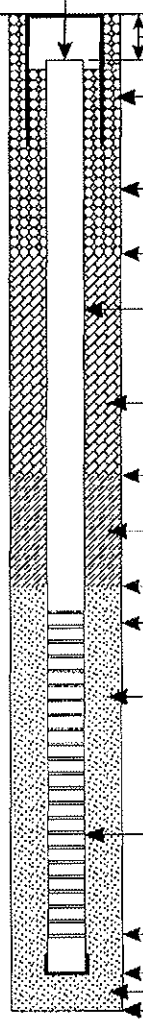
Total Depth of Boring: 57.17 ft bgs

NOTE: DIAGRAM IS NOT TO SCALE

ENV_WELL_CONSTRUCTION_FLUSH_WGK 21562047.00001.GPJ URSSTLEV.GDT 10/30/08

Project: WGK PCB Groundwater Quality Assessment Project Location: Sauget, IL Project Number: 21562047	MONITORING WELL CONSTRUCTION LOG FOR WELL PMAMW06D

Well Location Sauget, IL		Date(s) Installed 08/14/2008 Time
Installed By	Observed By M. Corbett	Total Depth (ft) 106.00 ft bgs
Method of Installation Rotosonic		
Screened Interval 96.29 - 101.29	Completion Zone Deep Hydrogeologic Unit	
Remarks Screen Eelevation: 311.03 - 306.03		



Elevation of Top of Riser Pipe: 407.32 ft NAVD 88

Depth of Riser Below Ground Surface: 0.31 ft

Ground Elevation: 407.63 ft NAVD 88

ID/Type of Surface Casing: **Flush Mount**

Type of Surface Seal: **Cement**

Depth of Surface Seal: 3.00 ft bgs

ID/Type of Riser Pipe: **2" Stainless Steel - SS304**

Boring Diameter: **6 inches**

Type of Backfill: **Cement-Bentonite Grout**

Depth of Seal: 88.00 ft bgs

Type of Seal: **Bentonite Chips**

Depth of Top of Filter Pack: 93.00 ft bgs

Depth of Top of Screen: 96.29 ft bgs

Type of Filter Pack: **12/30 Silica Sand**

ID/Type of Screen: **2" Stainless Steel - SS304**
Screen Slot Size: **0.010"**

Depth of Bottom of Screen: 101.29 ft bgs

Depth of Bottom of Plugged Blank Casing: 101.29 ft bgs

Type/Depth of Backfill/Seal Below Well: **4.71 ft of 12/30 Silica Sand**

Total Depth of Boring: 106.00 ft bgs

NOTE: DIAGRAM IS NOT TO SCALE

ENV_WELL_CONSTRUCTION_FLUSH_WGK 21562047.00001.GPJ URSSTLEV.GDT 10/30/08

Attachment A-5
Monitoring Well Development Sheets

GROUNDWATER ~~SAMPLING~~ Development DATA SHEET #1

PROJECT NAME: WGK - PCB GW Quality Assessment Program PROJECT NUMBER: 21562047.00001
DATE: 8/14/08
WEATHER: overcast, 80°
FIELD PERSONNEL: Mike Corbett - VRS, Brent Longyear - Clint Herron, Mike Hanson, Dustin Reed
MONITORING WELL ID: PMA-MW-5

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 57 ft
Depth to Water: 8.70 ft
Height of Water Column: 48.30 ft
Depth to Top of Screen: ~~42.30~~ 52 ft
1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft[1]: 0.163
Vol. Of Water Column: 2.87 gallons
Volume Of Water Introduced From Drilling: 100 gallons
Min. Purge Volume: ~540 gallons (5 volumes)

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL ft

PURGE DATA

Purge Method: 5-ft slug / 1-ft Grundfos pump for developing (Grundfos 115/230V pump)

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1255	8.70	lt. brown, cloudy	odorless	7.57	23.27	1.381	518.3		
25	1305	9.50	colorless, clear	"	7.20	21.57	2.043	10.8		
50	1325	9.50		"	7.23	21.26	2.217	14.9		
75	1410*	9.50		"	7.12	22.00	2.346	12.2		
100	1425	9.80		"	7.21	21.45	2.383	8.2		
125	1433	9.80		"	7.20	21.39	2.388	7.6		
150	1440	9.80		slight chemical	7.08	21.42	2.402	6.0		
175	1445	9.80			7.08	21.42	2.407	2.8		
200	1450	9.80			7.09	21.41	2.414	1.4		
225	1457	9.80			7.10	21.41	2.420	8.0		
250	1503	9.80			7.09	21.41	2.440	1.8		
275	1510	9.80			7.09	21.41	2.447	2.1		
300	1518	9.80			7.09	21.42	2.446	1.9		
325	1524	9.80			7.08	21.43	2.450	1.5		

Start Time: 1255
Average Purge Rate (gallons/min): 2.58
Purge Stop Time: 1640
Well Volumes Purged: 73.70
Elapsed Time: 3h. 45 min.
Water Quality Meter ID: YSI 6920 (0250792)
Total Volume Purged: 580 gallons
Calibrated on: 8/14/08

SAMPLING DATA

Sampling Method:

Sample Date: —
Sample Time: —
Analysis: —

COMMENTS:
Surged well every 8-10 gallons with a 5ft x 1.5in slug.
*Headcount siren. Stopped pump for 30 min.

GROUNDWATER SAMPLING DATA SHEET #2

PROJECT NAME: WGK-PCB GW Quality Assessment Program PROJECT NUMBER: 21562047.00001
DATE: 8/14/08
WEATHER: overcast, 80°, breezy
FIELD PERSONNEL: Mike Colbert / URS, Boart Longyear
MONITORING WELL ID: PMA-MW-5

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 57 ft
Depth to Water: 8.70 ft
Height of Water Column: 48.30 ft
Depth to Top of Screen: 52 ft
[1] 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft[1]: 0.163
Vol. Of Water Column: 7.87 gallons
Volume Of Water Introduced From Drilling: 0.0 gallons
Min. Purge Volume: ~540 gallons (5 volumes)

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL: — ft

PURGE DATA

Purge Method: 5ft slug / 1-ft stainless steel Grandfos pump for developing

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
350	1530	9.80	colorless, clear	sl. chemical	7.08	21.46	2.452	1.5		
375	1535	9.80			7.09	21.50	2.451	1.4		
400	1542	9.80			7.07	21.51	2.458	1.4		
425	1549	9.80			7.07	21.54	2.461	1.3		
450	1555	9.80		none	7.07	21.75	2.464	1.3		
475	1601	9.80			7.08	20.94	2.466	0.9		
500	1608	9.80			7.09	20.95	2.468	0.4		
525	1615	9.80			7.09	20.89	2.475	0.1		
550	1621	9.80			7.10	20.73	2.467	0.3		
560	1628	9.80			7.11	20.67	2.468	0.2		
570	1634	9.80			7.10	20.69	2.466	0.2		
580	1640	9.80			7.09	20.70	2.464	0.1		

MC

Start Time: 1255
Average Purge Rate (gallons/min): 2.58
Purge Stop Time: 1640
Well Volumes Purged: 73.70
Elapsed Time: 3h. 45 min.
Water Quality Meter ID: YSI 6920
Total Volume Purged: 580 gallons
Calibrated on: 8/14/08

SAMPLING DATA

Sampling Method: —
Sample Date: —
Sample Time: —
Analysis: —

COMMENTS: —

GROUNDWATER ~~SAMPLING~~ Development DATA SHEET #1

PROJECT NAME: WGK- PCB GW Quality Assessment PROJECT NUMBER: 21562047.00001
DATE: 8/15/08
WEATHER: Sunny, 80s
FIELD PERSONNEL: Mike Corbett - URS, Boart Longyear - Clint Hemon, Michael Hansen, Dustin Reed
MONITORING WELL ID: PMA-MW-6

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 101 ft
Depth to Water: 5.40 ft
Height of Water Column: 95.60 ft
Depth to Top of Screen: 96 ft
[1] 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft[1]: 0.163
Vol. Of Water Column: 15.58 gallons
Volume Of Water Introduced From Drilling: 120 gallons
Min. Purge Volume: ~ 680 gallons (45 volumes)

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL — ft

PURGE DATA

Purge Method: 5ft x 1.5 in weighted slug / 1ft stainless steel Grundfos pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	0805	5.40	lt. brown, cloudy	chemical	7.18	20.95	1.163	280.0		
25	0815	5.70			7.13	20.97	1.164	101.1		
50	0825	5.70			7.12	20.94	1.164	563.4		
75	0835	5.70			7.09	20.90	1.177	390.9		
100	0845	5.70			7.05	20.84	1.181	897.7		
125	0852	5.70			7.07	20.62	1.185	544.0		
150	0900	5.70			7.07	20.36	1.186	284.6		
175	0908	5.70			7.07	20.70	1.191	231.8		
200	0916	5.70			7.06	20.52	1.190	190.2		
225	0923	5.70			7.07	20.49	1.189	130.6		
250	0930	5.70	colorless, cloudy	sl. chemical	7.05	20.91	1.203	114.5		
275	0938	5.70			7.05	20.80	1.199	189.4		
300	0944	5.70			7.05	20.73	1.200	138.5		
325	0950	5.70			7.04	20.71	1.196	202.1		

Start Time: 0805 Purge Stop Time: 1200 Elapsed Time: 235 min Total Volume Purged: 720 gallons
Average Purge Rate (gallons/min): 3.06 Well Volumes Purged: 46.21 Water Quality Meter ID: YSI 6920 (0230792) Calibrated on: 8/15/08

SAMPLING DATA

Sampling Method:

Sample Date: — Sample Time: — Analysis: —

COMMENTS:
Surged well every well volume.

GROUNDWATER SAM G DATA SHEET #2

PROJECT NAME: WGK-PCB GW Quality Assessment Program PROJECT NUMBER: 21562047.00001
DATE: 8/15/08
WEATHER: sunny, 80s
FIELD PERSONNEL: Mike Corbett - URS, Boart Longyear
MONITORING WELL ID: PMA-MW-6

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 101 ft
Depth to Water: 5.40 ft
Height of Water Column: 95.60 ft
Depth to Top of Screen: 96 ft

Gallons/Lin.Ft[1]: 0.163
Vol. Of Water Column: 15.58 gallons
Volume Of Water Introduced From Drilling: 120 gallons
Min. Purge Volume: ~680 gallons (45 volumes)

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL — ft

1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

PURGE DATA

Purge Method: 5ft x 1.5 in weighted slug / Grundfos pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
350	1000	5.70	colorless, cloudy	sl. chemical	7.01	21.08	1.198	151.1		
375	1008	5.70			7.03	20.82	1.201	131.4		
400	1017	5.70			7.01	21.00	1.201	50.7		
425	1025	5.70			7.00	20.77	1.203	38.00		
450	1032	5.71			7.00	21.01	1.213	36.4		
475	1041	5.72			6.99	20.99	1.215	33.3		
500	1050	5.72			6.98	20.89	1.212	30.5		
525	1056	5.72			6.98	21.03	1.220	29.1		
550	1104	5.72			7.00	21.10	1.222	29.2		
575	1110	5.72			6.97	20.80	1.226	27.4		
600	1115	5.72			6.96	21.09	1.218	26.5		
625	1125	5.72			6.95	21.32	1.224	18.1		
650	1135	5.72	clear, colorless		6.90	21.49	1.231	15.0		
675	1142	5.72			6.89	21.05	1.229	12.1		

Start Time: 0805
Average Purge Rate (gallons/min): 3.06
Purge Stop Time: 1200
Well Volumes Purged: 46.21
Elapsed Time: 235 min
Water Quality Meter ID: YSI 6920
Total Volume Purged: 720 gallons
Calibrated on: 8/15/08

SAMPLING DATA

Sampling Method:

Sample Date: —
Sample Time: —
Analysis: —

COMMENTS:

GROUNDWATER SAMPLING DATA SHEET #3

PROJECT NAME: WGK-PCB GW Quality Assessment Program PROJECT NUMBER: 21562047.00001
DATE: 8/15/08
WEATHER: Sunny, 80's
FIELD PERSONNEL: Mike Corbett - URS, Bart Longyear
MONITORING WELL ID: PMA-MW-6

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 101 ft
Depth to Water: 5.40 ft
Height of Water Column: 95.60 ft
Depth to Top of Screen: 96 ft
[1] 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft[1]: 0.163
Vol. Of Water Column: 15.58 gallons
Volume Of Water Introduced From Drilling: 120 gallons
Min. Purge Volume: ~680 gallons (45 volumes)

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL — ft

PURGE DATA

Purge Method: 5ft x 1.5 in weighted sling / Grundfos pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
690	1149	5.72	colorless, clear	sl. chemical	6.84	21.07	1.222	3.6		
705	1154	5.72	↓	↓	6.85	21.08	1.230	2.3		
720	1200	5.72			6.86	20.99	1.228	2.2		

Start Time: 0805
Average Purge Rate (gallons/min): 3.06
Purge Stop Time: 1200
Well Volumes Purged: 46.21
Elapsed Time: 235 min
Water Quality Meter ID: YSI 6920
Total Volume Purged: 720 gallons
Calibrated on: 8/15/08

SAMPLING DATA

Sampling Method:

Sample Date: — Sample Time: — Analysis: —

COMMENTS:

Appendix B

Groundwater Purging and Sampling Forms

US EPA ARCHIVE DOCUMENT

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: ~~21561996.00003~~ 2047 FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: 80s rainy
MONITORING WELL ID: PMAMW01S SAMPLE ID: PMAMW01S-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 24.92 ft
Constructed Well Depth (btoc): 24.94 ft
Depth to Water (btoc): 9.10 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 19.94 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 15.74 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 22.42 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): ~~500~~ 1150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 3450 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	0915	9.38	colorless, clear	none	6.73	18.45	1.373	15.7	0.75	92.0
1200	0921	9.22	↓	↓	6.73	18.66	1.393	3.5	0.74	58.5
2400	0927	9.22	↓	↓	6.74	19.15	1.431	-0.7	0.70	54.8
3600	0933	9.22	↓	↓	6.74	18.96	1.449	-4.7	0.61	49.8
4800	0939	9.22	↓	↓	6.75	18.79	1.452	-1.0	0.58	44.4
6000	0945	9.22	↓	↓	6.75	18.91	1.452	-3.8	0.60	40.2
7200	0951	9.22	↓	↓	6.75	19.19	1.448	-6.4	0.60	38.2

MEC

Start Time: 0915
Stop Time: 0951
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 0955
Sample Flow Rate: 200 mL/min
Analysis: Total PCBs
QA/QC: MS/MSD

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: ~~21561996.00003~~ 21562047.00003 MC FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: cloudy, 73°
MONITORING WELL ID: PMAMW01M SAMPLE ID: PMAMW01M-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 59.63 ft
Constructed Well Depth (btoc): 59.3 ft
Depth to Water (btoc): 9.93 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 54.3 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 49.70 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 57.13 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): ~~500~~ 1150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 3450 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1015	9.95	colorless, clear	none	7.04	19.26	2.144	9.3	1.07	-146.5
1200	1021	9.95	↓	↓	6.96	20.29	2.333	19.7	0.81	-146.5
2400	1027	9.95	↓	↓	6.95	19.74	2.343	6.2	0.47	-148.7
3600	1033	9.95	↓	↓	6.95	19.51	2.339	-5.2	0.47	-148.8
4800	1039	9.95	↓	↓	6.94	19.69	2.334	6.6	0.47	-146.2
6000	1045	9.95	↓	↓	6.94	19.51	2.327	-4.2	0.47	-143.6
7200	1051	9.95	↓	↓	6.93	19.71	2.321	-0.6	0.42	-141.1

MEC

Start Time: 1015
Stop Time: 1051
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1055
Sample Flow Rate: 200 mL/min
Analysis: Total PCBs
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 21561996.00003 (2097) FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: cloudy, 75°
MONITORING WELL ID: PMAMW02S SAMPLE ID: PMAMW02S-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 27.35 ft
Constructed Well Depth (btoc): 27.33 ft
Depth to Water (btoc): 11.34 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 22.33 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 16.01 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 24.85 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): ~~500~~ 750 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 2250 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1117	11.45	colorless, clear	none	7.03	19.72	1.885	69.0	0.86	-7.2
800	1121	11.45	↓	↓	6.85	19.84	1.866	38.1	0.67	2.6
1600	1125	11.45	↓	↓	6.85	19.81	1.865	22.7	0.57	15.7
2400	1129	11.45	↓	↓	6.84	19.77	1.867	12.7	0.52	23.5
3200	1133	11.45	↓	↓	6.85	19.81	1.868	8.4	0.49	30.0
4000	1137	11.45	↓	↓	6.85	19.79	1.867	5.5	0.47	36.2
4800	1141	11.45	↓	↓	6.85	19.79	1.867	3.8	0.46	39.8

MEC

Start Time: 1117
Stop Time: 1141
Elapsed Time: 24 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1145
Sample Flow Rate: 200 mL/min
Analysis: Total PCBs
QA/QC: EB

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 2047 21561996.00003 FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: partly sunny, 73°
MONITORING WELL ID: PMAMW02M SAMPLE ID: PMAMW02M-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 61.55 ft
Constructed Well Depth (btoc): 61.54 ft
Depth to Water (btoc): 11.66 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 56.54 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 49.89 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 59.05 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): 580 ~~1150~~ 750 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1580 ~~3450~~ 2250 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1240	11.68	colorless, clear	none	7.05	20.55	2.268	21.0	~~0.66~~ ~~-150.2~~ MC	-150.2
800	1244	11.68	↓	↓	7.03	20.67	2.278	8.6	0.61	-152.1
1600	1248	11.68	↓	↓	7.04	20.55	2.275	3.0	0.58	-152.5
2400	1252	11.68	↓	↓	7.04	20.42	2.278	-4.0	0.51	-152.5
3200	1256	11.68	↓	↓	7.04	20.19	2.275	-4.6	0.49	-152.3
4000	1300	11.68	↓	↓	7.05	20.33	2.274	-1.4	0.47	-152.3
4800	1304	11.68	↓	↓	7.04	20.09	2.268	-0.5	0.48	-150.9

MEC

Start Time: 1240
Stop Time: 1304
Elapsed Time: 24 min.
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1310
Sample Flow Rate: 200 mL/min
Analysis: Total PCBs
QA/QC: AD

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 2047 21561996.00003 FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: 80s, Sunny
MONITORING WELL ID: PMAMW03S SAMPLE ID: PMAMW03S-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 27.40 ft
Constructed Well Depth (btoc): 27.40 ft
Depth to Water (btoc): 11.53 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 22.40 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 15.87 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 24.90 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): ~~500~~ 750 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 2250 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1355	11.57	colorless, clear	none	7.10	21.34	1.285	68.8	3.68	-3.6
800	1359	11.57	↓	↓	~~6.7~~ 6.76	20.72	1.271	49.0	0.55	36.1
1600	1403	11.57			6.74	20.88	1.274	35.1	0.48	39.2
2400	1407	11.57			6.75	21.10	1.281	16.6	0.39	43.9
3200	1411	11.57			6.77	21.08	1.284	8.4	0.33	45.8
4000	1415	11.57			6.77	21.02	1.284	5.6	0.31	46.4
4800	1419	11.57			6.78	21.05	1.282	3.1	0.29	47.1
5600	1423	11.57			6.79	21.04	1.283	3.6	0.26	47.3
6400	1427	11.57			6.79	20.97	1.282	2.7	0.24	47.3
7200	1431	11.57	↓	↓	6.79	20.90	1.280	2.6	0.24	47.4

MEC

Start Time: 1355
Stop Time: 1431
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1435
Sample Flow Rate: 200 ml/min
Analysis: Total PCBs
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 21561996.00003 (2047) FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 8/22/2008 WEATHER: Mostly sunny, breezy, 73°
MONITORING WELL ID: PMAMW03M SAMPLE ID: PMAMW03M-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 61.82 ft
Constructed Well Depth (btoc): 61.81 ft
Depth to Water (btoc): 11.64 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 56.81 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 50.18 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 59.32 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): ~~500~~ 750 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 2250 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 6.4 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2 units)	Temp (°C) (±3 %)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1450	11.67	dark brown	chemical	9.45	20.73	2.475	188.3	0.15	-205.1
800	1454	11.67			9.52	20.45	2.474	172.2	-0.03	-214.7
1600	1458	11.67			9.52	20.26	2.471	164.2	-0.03	-215.9
2400	1502	11.67			9.52	20.23	2.467	155.5	-0.04	-217.4
3600	1506	11.67			9.53	20.08	2.463	148.9	-0.05	-219.0
4800	1510	11.67			9.55	20.12	2.445	135.4	-0.05	-219.7
5600	1514	11.67	light brown		9.56	20.36	2.443	123.7	-0.05	-220.9
6400	1518	11.67			9.57	20.70	2.441	106.4	-0.06	-224.9
7200	1522	11.67			9.57	20.79	2.442	100.6	-0.05	-224.5
8000	1524	11.67			9.58	21.11	2.444	98.8	-0.05	-226.3
8800	1528	11.67			9.58	20.98	2.450	92.2	-0.05	-227.2
9200	1532	11.67			9.58	21.22	2.442	86.0	-0.05	-227.9
10000	1536	11.67			9.58	21.37	2.439	69.7	-0.05	-203.1
10800	1540	11.67			9.57	21.00	2.443	67.4	-0.05	-195.6
12000	1550	11.67			9.56	21.14	2.430	66.1	-0.04	-190.5

Start Time: 1450
Stop Time: 1550
Elapsed Time: 60 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/22/2008

SAMPLING DATA

Sample Date: 8/22/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1555
Sample Flow Rate: 200 ml/min
Analysis: Total PCBs
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 21561996.00003 FIELD PERSONNEL: M. Corbett
DATE: 8/ /2008 WEATHER:
MONITORING WELL ID: PMAMW04S SAMPLE ID: PMAMW04S-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): ft
Constructed Well Depth (btoc): 25.33 ft
Depth to Water (btoc): ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 20.33 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 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): 500 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 1500 mL
Ambient PID/FID Reading: ppm
Wellbore PID/FID Reading: ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)

NOT SAMPLED
DNAPL ENCOUNTERED

Start Time:
Stop Time:
Elapsed Time:
Average Purge Rate (mL/min):
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/ /2008

SAMPLING DATA

Sample Date: 8/ /2008
Sample Method: Stainless Steel Monsoon
Sample Time:
Sample Flow Rate:
Analysis: Total PCBs
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 21561996.00003 FIELD PERSONNEL: M. Corbett, C. Williams
DATE: 8/ 18/2008 WEATHER: cloudy, 85°
MONITORING WELL ID: PMAMW05 SAMPLE ID: PMAMW05-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 56.97 ft
Constructed Well Depth (btoc): ft
Depth to Water (btoc): 9.52 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 47.45 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 54.47 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): ~~500~~ MC 1150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ MC 3450 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1442	9.53	slightly cloudy	slight hydrocarbon	7.09	21.95	2.488	87.3	-11.64	-137.8
1200	1448	9.53	↓	↓	7.09	21.39	2.610	23.0	-10.77	-141.8
2400	1454	9.53	clear, colorless		7.11	21.43	2.606	3.6	-10.52	-142.2
3600	1500	9.53			7.12	21.51	2.613	1.1	-10.27	-140.8
4800	1506	9.53			7.12	21.49	2.612	-1.3	-10.40	-140.7
6000	1512	9.53			7.12	22.01	2.625	-1.4	-9.64	-140.0
7200	1518	9.53	↓	↓	7.12	22.13	2.629	-1.9	-9.73	-137.4

MEC

Start Time: 1442
Stop Time: 1518
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/ 18 /2008

SAMPLING DATA

Sample Date: 8/ 18 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1525
Sample Flow Rate: 200 mL/min
Analysis: Total PCBs, Dissolved PCBs (0.45 micron filter)
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK PCB M&M Inv. PROJECT NUMBER: 21561996.00003 FIELD PERSONNEL: M. Corbett, C. Williams
DATE: 8/18/2008 WEATHER: partly cloudy, 85°
MONITORING WELL ID: PMAMW06 SAMPLE ID: PMAMW06-0808

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 101.29 ft
Constructed Well Depth (btoc): ___ ft
Depth to Water (btoc): 6.12 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ___ ft 96.29
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 95.17 ft ~~btoc~~
If Depth to Top of Screen is > Depth to Water AND Screen Lenth is < 4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 98.79 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): ~~500~~ mL 1150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ mL 3450 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 (±0.2 units)	Temp (°C)	Cond. (ms/cm) (±3 %)	Turbidity (NTUs)	DO (mg/l) (±10 % or ±2 mg/L)	ORP (mv) (±20 mV)
0	1230	6.13	colorless, clear	slight chemical	6.79	22.08	1.215	19.4	-14.86	-116.2
1200	1236	6.12	"	"	6.96	22.87	1.317	2.8	-13.37	-154.8
2400	1242	6.12	"	"	7.02	23.46	1.326	-2.4	-12.36	-158.6
3600	1248	6.12	"	"	6.97	22.79	1.324	2.6	-13.00	-160.0
4800	1254	6.12	"	"	6.96	22.79	1.324	-5.0	-12.70	-158.3
6000	1300	6.12	"	"	6.96	23.02	1.326	-6.5	-12.98	-153.2
7200	1306	6.12	"	"	6.95	23.06	1.328	-1.7	-13.05	-149.9

MEC

Start Time: 1230
Stop Time: 1306
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 8/18/2008

SAMPLING DATA

Sample Date: 8/18/2008
Sample Time: 1310
Analysis: Total PCBs, Dissolved PCBs (0.45 micron filter), PCBs Dissolved (10 micron filter)
Sample Method: Stainless Steel Monsoon
Sample Flow Rate: 200 mL/min
Date Calibrated: NA

COMMENTS:

Appendix C

Chains-of-Custody

US EPA ARCHIVE DOCUMENT

Serial Number 002873

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: PCB GW Quality Assessment	PROJECT NO.: 21562047.00003	PROJECT LOCATION (STATE): IL	PAGE 1 OF 1
TAL (LAB) PROJECT MANAGER: Lidya Gulizia	P.O. NUMBER:	CONTRACT NO.:	STANDARD REPORT DELIVERY ◯ DATE DUE ____
CLIENT (SITE) PM: Thomas Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462	EXPEDITED REPORT DELIVERY (SURCHARGE) ◯ DATE DUE ____
CLIENT NAME: URS Corporation	CLIENT E-MAIL: thomas_adams@urscorp.com		
CLIENT ADDRESS: 1001 Highlands Plaza Dr.W. Ste 300, St. Louis, MO 63110			
COMPANY CONTRACTING THIS WORK (if applicable): Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE — COMPOSITE (C) OR GRAB (G) INDICATE

REQUIRED ANALYSIS: PCB 680 (none); PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
8/18/08	1310	PMAMW06-0808*	X				2	*3-5 day TAT on samples: PMAMW06-0808
	1310	PMAMW06-F(10.0)-0808*	X				2	PMAMW06-F(10.0)-0
	1310	PMAMW06-F(0.45)-0808*	X				2	PMAMW06-F(0.45)-0
	1525	PMAMW05-0808**	X				2	**Standard TAT on samples: PMAMW05-0808
	1525	PMAMW05-F(0.45)-0808**	X				2	PMAMW05-F(0.45)-0

MC

TEMP: 4.0/1.1

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	8/18/08	1700						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	081908	0857	YES ◯ NO ◯		~~6803~~ 680-39623	

TAL 8240-680 (1002)

Serial Number 002900

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Airbill No: 8640-3196-9979

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: WGK PCB GW Quality	PROJECT NO.: 21562047	PROJECT LOCATION (STATE): IL	PAGE 1 OF 1
TAL (LAB) PROJECT MANAGER: Lidya Gulizia	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Thomas Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462	DATE DUE
CLIENT NAME: URS Corporation	CLIENT E-MAIL		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 1001 Highlands Plaza Dr. W, Ste 300, St. Louis, MO 63110			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable): Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: 680 Total PCBs

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
~~8/22/08~~		~~Trip Blank~~ SM 8/22/08							
8/22/08	0955	PMAMW01S-0808	G	X				2	
	0955	PMAMW01S-0808-MS	G	X				2	
	0955	PMAMW01S-0808-MSD	G	X				2	
	1055	PMAMW02S-0808 PM SM 8/22/08	G	X				2	
	1145	PMAMW02S-0808	G	X				2	
	1200	PMAMW02S-0808-EB	G	X				2	
	1310	PMAMW02M-0808	G	X				2	
	1310	PMAMW02M-0808-AD	G	X				2	
	1435	PMAMW03S-0808	G	X				2	
	1555	PMAMW03M-0808	G	X				2	
								SM	

TEMP: 3.8/3.6

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	8/22/08	16:00						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	082308	1015	YES ◯ NO ◯		68039792	

TAL8240-680 (1207)

Serial Number U13219

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: WGK PCB GW QA	PROJECT NO.: 21562047.00003	PROJECT LOCATION (STATE): IL	PAGE 1 OF 1
TAL (LAB) PROJECT MANAGER: Lidya Gulizia	P.O. NUMBER:	CONTRACT NO.:	STANDARD REPORT DELIVERY ●
CLIENT (SITE) PM: thomas adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462	DATE DUE:
CLIENT NAME: URS Corporation	CLIENT E-MAIL: thomas_adams@urscorp.com		EXPEDITED REPORT DELIVERY (SURCHARGE) ○
CLIENT ADDRESS: 1001 Highlands Plaza Dr. West, Ste 300, St. Louis, MO 63110			DATE DUE:
COMPANY CONTRACTING THIS WORK (if applicable): Solutia			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	~~none VOC 8260B~~ mc	~~none SVOC 8270C~~ mc	none PCB 680								REMARKS
8/27/08	1600	PMAMW4S-0808-DNAPL	G				X	X	X	X								DNAPL (2-40mL VOAs)

MEC

TEMP.: 4.0

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	8/28/08	1300						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	082908	0904	YES ○ NO ○		68039983	

TAL 8240-680 (1207)

Appendix D

Quality Assurance Report

US EPA ARCHIVE DOCUMENT

QUALITY ASSURANCE REPORT

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

PCB Water Quality Assessment
3rd Quarter 2008 Data Report

Prepared for

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

December 2008

URS Corporation
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1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in August 2008 at the Solutia W.G. Krummrich plant as part of the 3rd Quarter 2008 PCB Water Quality Assessment. The samples were collected by URS Corporation personnel and analyzed by Test America Laboratories located in Savannah, Georgia using USEPA methodologies. Samples were analyzed for polychlorinated biphenyls (PCBs).

One hundred percent of the data were subjected to a data quality review (Level III validation). The Level III validations were performed in order to confirm that the analytical data provided by Test America were acceptable in quality for their intended use.

A total of 12 samples (seven investigative groundwater samples, one DNAPL, one field duplicate, one matrix spike and matrix spike duplicate (MS/MSD) pair, and one equipment blank) were analyzed by Test America. These samples were analyzed as Sample Delivery Groups (SDGs) KPM022, KPM023, KPM024 and KPM025, utilizing the following USEPA Methods:

- Method 680 for PCBs

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999, and the PCB Water Quality Assessment Work Plan, (URS 2008).

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Data was not qualified based on the data quality review. If qualifiers were assigned it would 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.

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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.
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
H	Sample was prepped or analyzed beyond the specified holding time.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

TABLE 2 URS Data Qualifiers

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

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

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The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, and field equipment 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

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. Upon review of the data, the cooler receipt form indicated that no problems were encountered by the laboratory.

Extractions and/or analyses were completed within the recommended holding time requirements; no qualification of data was required.

3.0 LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES

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. No analytes were detected in any of the method blanks.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. All analytes were not detected in the equipment blank samples.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for PCBs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Organic Data Review state how data is qualified, if surrogate spike recoveries do not meet evaluation criteria. Surrogate recoveries were within evaluation criteria with the exception of those surrogates in data reviews discussed further in Appendix D. No qualifications of data was required due to surrogate recoveries.

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5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS recoveries were within evaluation criteria. No qualifications of data was required due to LCS recoveries.

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 seven investigative samples, meeting the work plan frequency requirement.

No qualifications were made to the data if the MS/MSD percent recoveries were zero due to dilutions or if the percent RPD was the only factor outside of criteria. Also, USEPA National Functional Guidelines for Organic Data Review (October 1999) states that organic data should not be qualified based on MS/MSD criteria alone. Therefore, if recoveries were outside evaluation criteria due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria.

Sample PMAMW01S-0808 was spiked and analyzed for PCBs. All MS/MSD recoveries were within evaluation criteria. No qualification of data was required due to MS/MSD recoveries.

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 2.5 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One field duplicate sample was collected for the seven investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). All field duplicate RPDs were within evaluation criteria.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. For the PCBs (Method 680), the IS areas must be within +/- 30 percent of the preceding calibration verification (CV) IS value. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time. If the IS area count is outside criteria, Method 680 indicates the mean IS area obtained during the initial calibration (ICAL) (+/- 50 percent) should be used.

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The internal standards area responses for PCBs were verified for the data reviews. IS responses met the criteria as described above, in samples with the exception of the IS responses in the data reviews discussed further in Appendix D. No qualifications of data were required due to internal standard responses.

9.0 RESULTS REPORTED FROM DILUTIONS

The PCB DNAPL sample was diluted and reanalyzed due to the high levels of PCBs in the sample. The diluted sample results for PCBs were reported at the lowest possible reporting limit.

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Appendix E

Groundwater Analytical Results

(and Data Review Sheets)

SDG KPM022

Results of Samples from Wells:

PMAMW06D

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Solutia Krummrich Data Review

Laboratory SDG: KPM022

Reviewer: Tony Sedlacek

Date Reviewed: 10/29/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Water Quality Assessment (URS 2008)

Sample Identification #	Sample Identification #
PMAMW06-0808	PMAMW06-F(10.0)-0808
PMAMW06-F(0.45)-0808	

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

The laboratory case narrative and cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

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

Field ID	Parameter	Analyte	Qualification
N/A			

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

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7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
PMAMW06-0808	PCBs	Chrysene-d_{12}	**115666**	53001-98431

Analytical data that required qualification based on IS data are included in the table below. Analytical data which were reported as nondetect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Internal standard areas for chrysene-d_{12} recovered within the initial calibration average internal standard area, therefore; no qualification of data was required.

Field ID	Parameter	Analyte	Qualification
N/A			

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9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples were not analyzed at a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

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SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-39623-1
Sdg Number: KPM022

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-39623-1	PMAMW06-0808	Water	08/18/2008 1310	08/19/2008 0857
680-39623-2	PMAMW06-F(10.0)-0808	Water	08/18/2008 1310	08/19/2008 0857
680-39623-3	PMAMW06-F(0.45)-0808	Water	08/18/2008 1310	08/19/2008 0857

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-39623-1
Sdg Number: KPM022

Client Sample ID: **PMAMW06-0808**

Lab Sample ID: 680-39623-1
Client Matrix: Water

Date Sampled: 08/18/2008 1310
Date Received: 08/19/2008 0857

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/20/2008 1850
Date Prepared: 08/19/2008 1630

Analysis Batch: 680-115114
Prep Batch: 680-114900

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.21		0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	57	25 - 113

Client: Solutia Inc.

Job Number: 680-39623-1
Sdg Number: KPM022

Client Sample ID: **PMAMW06-F(10.0)-0808**

Lab Sample ID: 680-39623-2
Client Matrix: Water

Date Sampled: 08/18/2008 1310
Date Received: 08/19/2008 0857

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/20/2008 1919
Date Prepared: 08/19/2008 1630

Analysis Batch: 680-115114
Prep Batch: 680-114900

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.12		0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	62	25 - 113

Client: Solutia Inc.

Job Number: 680-39623-1
Sdg Number: KPM022

Client Sample ID: **PMAMW06-F(0.45)-0808**

Lab Sample ID: 680-39623-3
Client Matrix: Water

Date Sampled: 08/18/2008 1310
Date Received: 08/19/2008 0857

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/20/2008 1948
Date Prepared: 08/19/2008 1630

Analysis Batch: 680-115114
Prep Batch: 680-114900

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	62	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-39623-1
Sdg Number: KPM022

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.

SDG KPM023

Results of Samples from Wells:

PMAMW05M

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Solutia Krummrich Data Review

Laboratory SDG: KPM023

Reviewer: Tony Sedlacek

Date Reviewed: 10/29/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Water Quality Assessment (URS 2008)

Sample Identification #	Sample Identification #
PMAMW05-0808	PMAMW05-F(0.45)-0808

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

The laboratory case narrative and cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

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

Field ID	Parameter	Analyte	Qualification
N/A			

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

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7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
PMAMW05-0808	PCBs	Chrysene-d_{12}	**100723**	53001-98431

Analytical data that required qualification based on IS data are included in the table below. Analytical data which were reported as nondetect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Internal standard areas for chrysene-d_{12} recovered within the initial calibration average internal standard area, therefore; no qualification of data was required.

Field ID	Parameter	Analyte	Qualification
N/A			

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9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples were not analyzed at a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

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SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-39623-2
Sdg Number: KPM023

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-39623-4	PMAMW05-0808	Water	08/18/2008 1525	08/19/2008 0857
680-39623-5	PMAMW05-F(0.45)-0808	Water	08/18/2008 1525	08/19/2008 0857

SAMPLE RESULTS

Analytical Data

Client: Solutia Inc.

Job Number: 680-39623-2
Sdg Number: KPM023

Client Sample ID: **PMAMW05-0808**

Lab Sample ID: 680-39623-4
Client Matrix: Water

Date Sampled: 08/18/2008 1525
Date Received: 08/19/2008 0857

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/20/2008 2017
Date Prepared: 08/19/2008 1630

Analysis Batch: 680-115114
Prep Batch: 680-114900

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	55	25 - 113

Client: Solutia Inc.

Job Number: 680-39623-2
Sdg Number: KPM023

Client Sample ID: **PMAMW05-F(0.45)-0808**

Lab Sample ID: 680-39623-5
Client Matrix: Water

Date Sampled: 08/18/2008 1525
Date Received: 08/19/2008 0857

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/20/2008 2046
Date Prepared: 08/19/2008 1630

Analysis Batch: 680-115114
Prep Batch: 680-114900

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.094	U	0.094
Dichlorobiphenyl	0.094	U	0.094
Trichlorobiphenyl	0.094	U	0.094
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.28	U	0.28
Octachlorobiphenyl	0.28	U	0.28
Nonachlorobiphenyl	0.47	U	0.47
DCB Decachlorobiphenyl	0.47	U	0.47

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	59	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-39623-2
Sdg Number: KPM023

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.

SDG KPM024

Results of Samples from Wells:

PMAMW01S
PMAMW01M
PMAMW02S
PMAMW02M
PMAMW03S
PMAMW03M

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Solutia Krummrich Data Review

Laboratory SDG: KPM024

Reviewer: Tony Sedlacek

Date Reviewed: 10/29/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Water Quality Assessment (URS 2008)

Sample Identification #	Sample Identification #
PMAMW01S-0808	PMAMW01M-0808
PMAMW02S-0808	PMAMW02S-0808-EB
PMAMW02M-0808	PMAMW02M-0808-AD
PMAMW03S-0808	PMAMW03M-0808

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

The laboratory case narrative and cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

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6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample PMAMW01S-0808 was spiked and analyzed for PCBs.

Were MS/MSD recoveries within evaluation criteria?

Yes

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

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8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
N/A				

Analytical data that required qualification based on IS data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

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10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PMAMW02M-0808	PMAMW02M-0808-AD

Were field duplicates within evaluation criteria?

Yes

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Samples did not require a dilution.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-39792-1	PMAMW01S-0808	Water	08/22/2008 0955	08/23/2008 1015
680-39792-1MS	PMAMW01S-0808	Water	08/22/2008 0955	08/23/2008 1015
680-39792-1MSD	PMAMW01S-0808	Water	08/22/2008 0955	08/23/2008 1015
680-39792-2	PMAMW01M-0808	Water	08/22/2008 1055	08/23/2008 1015
680-39792-3	PMAMW02S-0808	Water	08/22/2008 1145	08/23/2008 1015
680-39792-4EB	PMAMW02S-0808-EB	Water	08/22/2008 1200	08/23/2008 1015
680-39792-5	PMAMW02M-0808	Water	08/22/2008 1310	08/23/2008 1015
680-39792-6FD	PMAMW02M-0808-AD	Water	08/22/2008 1310	08/23/2008 1015
680-39792-7	PMAMW03S-0808	Water	08/22/2008 1435	08/23/2008 1015
680-39792-8	PMAMW03M-0808	Water	08/22/2008 1555	08/23/2008 1015

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW01S-0808**

Lab Sample ID: 680-39792-1
Client Matrix: Water

Date Sampled: 08/22/2008 0955
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1632
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	66	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW01M-0808**

Lab Sample ID: 680-39792-2
Client Matrix: Water

Date Sampled: 08/22/2008 1055
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1701
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.38		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	66	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW02S-0808**

Lab Sample ID: 680-39792-3
Client Matrix: Water

Date Sampled: 08/22/2008 1145
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1730
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	63	25 - 113

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW02S-0808-EB**

Lab Sample ID: 680-39792-4EB
Client Matrix: Water

Date Sampled: 08/22/2008 1200
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1759
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.097	U	0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	60	25 - 113

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW02M-0808**

Lab Sample ID: 680-39792-5
Client Matrix: Water

Date Sampled: 08/22/2008 1310
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1828
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	4.3		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	58	25 - 113

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW02M-0808-AD**

Lab Sample ID: 680-39792-6FD
Client Matrix: Water

Date Sampled: 08/22/2008 1310
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1857
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	4.0		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	59	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW03S-0808**

Lab Sample ID: 680-39792-7
Client Matrix: Water

Date Sampled: 08/22/2008 1435
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1926
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.26		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	65	25 - 113

Analytical Data

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Client Sample ID: **PMAMW03M-0808**

Lab Sample ID: 680-39792-8
Client Matrix: Water

Date Sampled: 08/22/2008 1555
Date Received: 08/23/2008 1015

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 08/28/2008 1955
Date Prepared: 08/26/2008 1346

Analysis Batch: 680-115931
Prep Batch: 680-115469

Instrument ID: No Equipment Assigned to
Lab File ID: N/A
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	1.3		0.097
Dichlorobiphenyl	0.097	U	0.097
Trichlorobiphenyl	0.097	U	0.097
Tetrachlorobiphenyl	0.19	U	0.19
Pentachlorobiphenyl	0.19	U	0.19
Hexachlorobiphenyl	0.19	U	0.19
Heptachlorobiphenyl	0.29	U	0.29
Octachlorobiphenyl	0.29	U	0.29
Nonachlorobiphenyl	0.49	U	0.49
DCB Decachlorobiphenyl	0.49	U	0.49

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	47	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-39792-1
Sdg Number: KPM024

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.

SDG KPM025

Results of Samples from Wells:

PMAMW04S

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Solutia Krummrich Data Review

Laboratory SDG: KPM025

Reviewer: Tony Sedlacek

Date Reviewed: 10/29/2008

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: PCB Water Quality Assessment (URS 2008)

Sample Identification #
PMAMW4S-0808-DNAPL

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that the sample was diluted due to high levels of target analytes. Also, internal standard recoveries were outside evaluation criteria. In addition, surrogates were diluted out and not recovered. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within QAPP limits?

Yes

Field ID	Parameter	Analyte	Qualification
N/A			

4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

Qualifications due to blank contamination are included in the table below. Analytical data that were reported nondetect or at concentrations greater than five times (5X) the associated blank concentration (10X for common laboratory contaminants) did not require qualification.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
N/A					

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

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6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

PCB surrogate Decachlorobiphenyl-13C12 was diluted out and not recovered. No qualification of data was required.

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

Analytical data that required qualification based on surrogate data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

Were MS/MSD recoveries within evaluation criteria?

N/A

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
N/A					

Analytical data that required qualification based on MS/MSD data are included in the table below.

Field ID	Parameter	Analyte	Qualification
N/A			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
PMAMW4S-0808-DNAPL	PCBs	Phenanthrene-d_{10}	**70532**	34500-64072

Analytical data that required qualification based on IS data are included in the table below. Internal standard areas outside criteria in quality control samples did not require qualification. Analytical data which were reported as nondetect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Internal standard areas for Phenanthrene-d_{10} recovered within the initial calibration average internal standard area; therefore, no qualification of data was required.

Field ID	Parameter	Analyte	Qualification
N/A			

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field ID	Parameter	Analyte	RPD	Criteria
N/A				

Data qualified due to outlying laboratory duplicate recoveries are identified below:

Field ID	Parameter	Analyte	Qualification
N/A			

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10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

Field ID	Field Duplicate ID
N/A	

Were field duplicates within evaluation criteria?

N/A

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
N/A					

11.0 Sample Dilutions

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

Analytes were detected in the sample that was diluted.

The following table identifies the analyses which were reported as nondetect, diluted, and an undiluted run ***was not*** reported:

Field ID	Parameter	Dilution Factor
N/A		

12.0 Additional Qualifications

Were additional qualifications applied?

No

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-39983-1
Sdg Number: KPM025

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-39983-1	PMAMW4S-0808-DNAPL	Waste	08/27/2008 1600	08/29/2008 0904

SAMPLE RESULTS

Analytical Data

Client: Solutia Inc.

Job Number: 680-39983-1
Sdg Number: KPM025

Client Sample ID: **PMAMW4S-0808-DNAPL**

Lab Sample ID: 680-39983-1
Client Matrix: Waste

Date Sampled: 08/27/2008 1600
Date Received: 08/29/2008 0904

680 Polychlorinated Biphenyls by GCMS

Method: 680
Preparation: 680
Dilution: 1000
Date Analyzed: 09/11/2008 1503
Date Prepared: 09/03/2008 0849

Analysis Batch: 680-117102
Prep Batch: 680-116102

Instrument ID: GC/MS SemiVolatiles - Y
Lab File ID: N/A
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 10 mL
Injection Volume:

Analyte	DryWt Corrected: N Result (ug/Kg)	Qualifier	RL
Monochlorobiphenyl	990000	U	990000
Dichlorobiphenyl	6400000		990000
Trichlorobiphenyl	35000000		990000
Tetrachlorobiphenyl	51000000		2000000
Pentachlorobiphenyl	68000000		2000000
Hexachlorobiphenyl	100000000		2000000
Heptachlorobiphenyl	38000000		3000000
Octachlorobiphenyl	24000000		3000000
Nonachlorobiphenyl	5100000	U	5100000
DCB Decachlorobiphenyl	5100000	U	5100000

Surrogate	%Rec		Acceptance Limits
Decachlorobiphenyl-13C12	0	D	30 - 130

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-39983-1
Sdg Number: KPM025

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.