SOLUTIA

Solutions for a better life.

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March 13, 2009

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

VIA FEDEX

Re: Long-Term Monitoring Program
4th Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Long-Term Monitoring Program 4th Quarter 2008 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

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

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Long-Term Monitoring Program
4th Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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4TH QUARTER 2008
DATA REPORT

LONG-TERM MONITORING PROGRAM

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

Prepared for

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

March 2009

URS Corporation
1001 Highland Plaza Drive West, Suite 300
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Project # 21561996.00002

1.0 INTRODUCTION 1

2.0 FIELD PROCEDURES 2

3.0 LABORATORY PROCEDURES 5

4.0 QUALITY ASSURANCE 5

5.0 OBSERVATIONS 6

6.0 REFERENCES 8

List of Figures

Figure 1 Site Location Map
Figure 2 Long-Term Monitoring Program Well Locations
Figure 3 Potentiometric Surface Map Middle/Deep Hydrogeologic Unit
Figure 4 4Q08 Benzene and Total Chlorobenzenes Results

List of Tables

Table 1 Monitoring Well Gauging Information
Table 2 Groundwater Analytical Results
Table 3 Monitored Natural Attenuation Results Summary

List of Appendices

Appendix A Groundwater Purging and Sampling Forms
Appendix B Chains-of-Custody
Appendix C Quality Assurance Report
Appendix D Groundwater Analytical Results (with Data Review Sheets)
Appendix E Microbial Insights Data Package

1.0 INTRODUCTION

This report presents the results of the 4th Quarter 2008 (4Q08) sampling event performed at the Solutia Inc. (Solutia) W.G. Krummrich (WGK) Facility located in Sauget, Illinois (Site). This sampling event was conducted in accordance the Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2008). The Site location is presented in **Figure 1**.

The LTMP was designed to evaluate the effectiveness of monitored natural attenuation (MNA), including: 1) a clear and meaningful trend of decreasing contaminant mass; 2) data that indirectly demonstrate the types and rates of natural attenuation processes active at the site; and 3) data that directly demonstrate the occurrence of biodegradation processes at the site.

Groundwater Sampling Location and Frequency - As specified in the LTMP Work Plan, groundwater samples will be collected for eight quarters from five monitoring wells downgradient of the Former Chlorobenzene Process Area (CPAMW-1D through CPAMW-5D) and five monitoring wells downgradient of the Former Benzene Storage Area (BSAMW-1S and BSAMW-2D through BSAMW-5D) to assess attenuation processes in the American Bottoms aquifer, as impacted groundwater from these source areas migrates toward and discharges to the Mississippi River.

Monitoring wells BSAMW-1S, 2D, 3D, 4D and 5D are located within the limiting flow lines downgradient of the Former Benzene Storage Area. Monitoring wells CPAMW-1D, 2D, 3D, 4D and 5D are located within the limiting flow lines downgradient of the Former Chlorobenzene Process Area. The North Tank Farm, Former Steamer Overhead Tank, and "Little Mo" (a former benzene storage tank) are also potential benzene and chlorobenzene source areas located within the limiting flow lines for the Former Chlorobenzene Process Area. Source areas and monitoring well locations are presented on **Figure 2**.

Quarterly sampling under the Long-Term Monitoring Program commenced 3Q08 and will continue for a total of eight quarters. At the end of eight quarters, groundwater quality and attenuation process data will be evaluated to determine if longer sampling intervals (e.g. semiannual or annual) are appropriate.

Groundwater Sampling Parameters - During the 4Q08 groundwater sampling event, groundwater samples were analyzed for benzene, monochlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene using USEPA Method 8260B to demonstrate a trend of decreasing contaminant mass and/or concentrations over time. In accordance with USEPA comments regarding the Long-Term Monitoring Plan, the following constituents were added to the groundwater monitoring parameter list on a semi-annual basis (1st and 3rd Quarters):

- 4-Chloroaniline: CPAMW-3D, CPAMW-4D, and CPAMW-5D
- 2-Chlorophenol: All Wells
- 1, 2, 4-Trichlorobenzene: All Wells
- 1,4-Dioxane: BSAMW-2D, BSAMW-3D, BSAMW-4D, and BSAMW-5D

MNA samples were collected from all ten long-term monitoring program wells. Evaluation of the types of active natural attenuation processes at the site is based on the following key geochemical parameters:

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

Direct demonstration of the occurrence of biodegradation processes is completed quarterly utilizing Microbial Insights (www.microbe.com) Bio-Trap® Samplers for Phospholipid Fatty Acid Analysis, along with Stable Isotope Probes (SIPs) for benzene or chlorobenzene detection in select wells.

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted 4Q08 field activities from November 17 through 24, 2008 in accordance with procedures outlined in the LTMP Work Plan, including the collection of appropriate quality assurance and quality control (QA/QC) samples. The following section summarizes field investigative procedures:

Groundwater Level Measurements – On November 17, 2008, URS personnel used an electronic oil/water interface probe to measure depth to static groundwater levels and if present, the thickness of non-aqueous phase liquid (NAPL), to 0.01 feet. Depth to groundwater measurements were collected from accessible existing wells (i.e., GM-, K- , PSMW- and PMA-series) and piezometers clusters (installed for the Sauget Area 2 RI/FS and WGK CA-750 Environmental Indicator projects) specified in the LTMP Work Plan **(Figure 3**). NAPL was not detected within any of the monitoring wells.

Well gauging information for the 4Q08 event is presented in **Table 1**. As the middle and deep hydrogeologic units are the primary migration pathway for constituents present in groundwater at the WGK Facility, a groundwater potentiometric surface map based on water level data from

wells screened in the Middle Hydrogeologic Unit (MHU) and Deep Hydrogeologic Unit (DHU) is presented as (**Figure 3)**.

Groundwater Sampling - Low-flow sampling techniques were used for groundwater sample collection on November 20, 21 and 24, 2008. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 200 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

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

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

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

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

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

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

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

- "**AAA**" denotes "Chlorobenzene Process Area (CPA)" or "Benzene Storage Area (BSA)"and "**MW-#**" denotes "Monitoring Well Number":
- **MMYY –** Month and year of sampling quarter, e.g.: Fourth quarter (November) 2008, 1108
- **"QAC"** denotes QA/QC sample
  - **AD –** analytical duplicate
  - **EB –** equipment blank
  - **MS or MSD –** Matrix Spike or Matrix Spike Duplicate

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

Field personnel and equipment were decontaminated according to procedures specified in the LTMP Work Plan to ensure the health and safety of those present, maintain sample integrity, and minimize movement of contamination between the work area and off-site locations. Equipment used on-site was decontaminated prior to beginning work, between sampling locations and/or uses, and prior to demobilizing from the site. Non-disposable purging and sampling equipment was decontaminated between each sample acquisition by washing with an Alconox® or equivalent detergent wash, a potable water rinse, and a distilled water rinse. Personnel and small equipment decontamination was performed at the sample locations. Disposable sampling equipment, such as gloves were collected and bagged on a daily basis and managed in accordance with Solutia procedures. Purge water was containerized and handled per Solutia procedures.

Biodegradation Evaluation Sampling - Bio-Trap® samplers and Stable Isotope Probes (SIPs), provided by Microbial Insights, Inc. (Rockford, TN), were utilized in the LTMP to provide information regarding biodegradation potential of the Shallow Hydrogeologic Unit (SHU), the MHU and the DHU. Bio-Trap® samplers are passive sampling tools which, over time, collect microbes across a membrane that serves as the sampling matrix. SIPs are similar passive

sampling tools that are analyzed to measure the degradation of a specific contaminant (i.e., benzene and chlorobenzene).

On November 4, 2008, URS field personnel deployed Bio-Trap® samplers in each of the ten LTMP wells for PLFA analysis. A benzene SIP and a monochlorobenzene SIP were placed in monitoring wells BSAMW02D and CPAMW03D, respectively. Bio-Trap® samplers and SIPs were tied to nylon line attached to the well cap and lowered to the middle of the well screen.

On December 4, 2008, the Bio-Trap® samplers and SIPs were retrieved from the wells, sealed in Ziploc® bags, labeled with the proper well identification and placed in an iced sample cooler with a signed COC. Sealed sample coolers were sent to Microbial Insights, Inc. for analysis.

3.0 LABORATORY PROCEDURES

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

- VOCs, via USEPA SW-846 Method 8260B
- MNA parameters: alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), methane (RSK 175), nitrate (353.2), sulfate (375.4), and total and dissolved organic carbon (415.1).

Dichlorobenzenes were quantitated using Method 8260B because of potential volatilization losses associated with Method 8270C. Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness, as described in the LTMP Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. Laboratory result pages (i.e. Form 1's) along with data validation review sheets are included in **Appendix D**.

A total of 14 samples (10 investigative groundwater samples, one field duplicate, one MS/MSD pair, and one equipment blank) were prepared and analyzed by Test America for combinations of VOCs, dissolved gasses, metals, and general chemistry. In addition, three trip blanks were included in the coolers that contained samples for VOC analysis and were analyzed for VOCs by USEPA SW-846 Method 8260B. The results for the various analyses were submitted as sample delivery groups (SDGs) KPS046 and KPS047. The samples contained in each SDG are listed below:

KPS046	KPS047
CPAMW02-1108	TB112408
CPAMW02-F-1108	BSAMW03-1108-EB
CPAMW02-1108-AD	CPAMW03-1108
CPAMW01-1108	CPAMW03-F-1108
CPAMW01-F-1108	BSAMW02-1108
BSAMW01-1108	BSAMW02-F-1108
BSAMW01-F-1108	CPAMW05-1108
BSAMW04-1108	CPAMW05-F-1108
BSAMW04-F-1108	
TB112008	
BSAMW05-1108	
BSAMW05-F-1108	
CPAMW04-1108	
CPAMW04-F-1108	
BSAMW03-1108	
BSAMW03-F-1108	
TB112108	

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 LTMP Work Plan (Solutia 2008).

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

5.0 OBSERVATIONS

Groundwater analytical detections and MNA results for the 4Q08 LTMP sampling event are presented on **Tables 2** and **3,** respectively. Five constituents - benzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene - were analyzed in samples collected from the ten LTMP wells during this sampling event. Each of these constituents is discussed below:

Benzene - Benzene was detected in collected samples at levels above the laboratory reporting limit in eight of the ten wells sampled in 4Q08, ranging from 97 µg/L (BSAMW03D) to 1,200,000 µg/L (BSAMW01S). Downgradient of the Former Benzene Storage Area benzene was detected in the DHU at concentrations of 16,000 µg/L (BSAMW02D) and 97 µg/L (BSAMW03D). Near

the river north of the Sauget Area 2 Groundwater Migration Control System (SA2 GMCS), benzene was detected in the DHU at concentrations of 590 µg/L (BSAMW04D) and 130 µg/L (BSAMW05D).

Benzene was detected at the Former Chlorobenzene Process Area at concentrations of 3,200 µg/L (CPAMW01D) and 2,000/1,900 µg/L (CPAMW02D and duplicate) at the North Tank Farm. Downgradient of the Former Chlorobenzene Storage Area, benzene was detected in the DHU at a concentration of 810 µg/L (CPAMW04D). Benzene was not detected in CPAMW03D or near the river north of the SA2 GMCS in DHU well CPAMW05D.

Chlorobenzenes (Total) - Total chlorobenzenes (chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4, dichlorobenzene) were detected at levels above the laboratory reporting limit in nine of the ten wells sampled in 4Q08, ranging from 259 µg/L (CPAMW04D) to 51,030 µg/L (CPAMW02D-AD)/(50,040 µg/L-CPAMW02D). Elevated concentrations were also detected in source area well CPAMW01D (48,400 µg/L). Downgradient of the Former Chlorobenzene Storage Area, total chlorobenzenes were detected in the DHU at concentrations of 450 µg/L (CPAMW03D) and 259 µg/L (CPAMW04D). Total chlorobenzenes were detected in the DHU near the river north of SA2 GMCS at a concentration of 1,400 µg/L (CPAMW05D).

Downgradient of the Former Benzene Storage Area, total chlorobenzenes were detected at concentrations of 2,500 µg/L (BSAMW02D) and 1,798 µg/L (BSAMW03D). North of the SA2 GMCS, near the river, total chlorobenzenes were detected in the DHU at concentrations of 2,410 µg/L (BSAMW04D) and 349 µg/L (BSAMW05D).

Figure 4 displays benzene and total chlorobenzenes results from the 4Q08 sampling event. These constituents provide a good depiction of the areal extent of contaminant migration from source areas at the WGK Facility.

Monitored Natural Attenuation - The MNA results for this quarter are presented on **Table 3**. PLFA and SIP laboratory results are included in **Appendix E**. These data will be compared to other quarterly sampling data in the first annual natural attenuation evaluation report submitted following 2Q09 sampling.

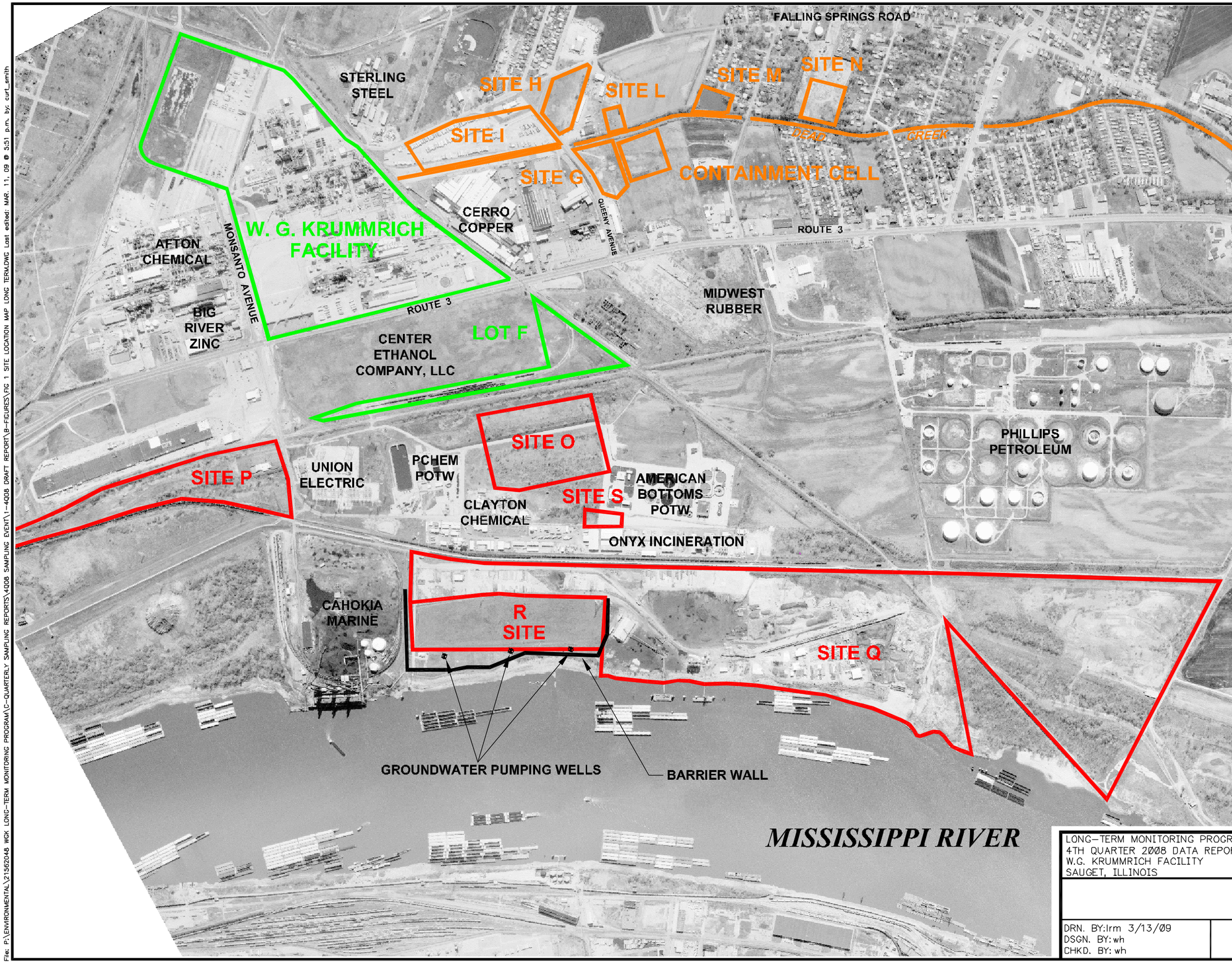
6.0 REFERENCES

Solutia Inc, 2008. Long Term Monitoring Program, Solutia, Inc., W.G. Krummrich Facility, Sauget, Illinois, April 2008.

USEPA, 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review.

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

Figures



LEGEND

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

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SCALE FEET

LONG-TERM MONITORING PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562048

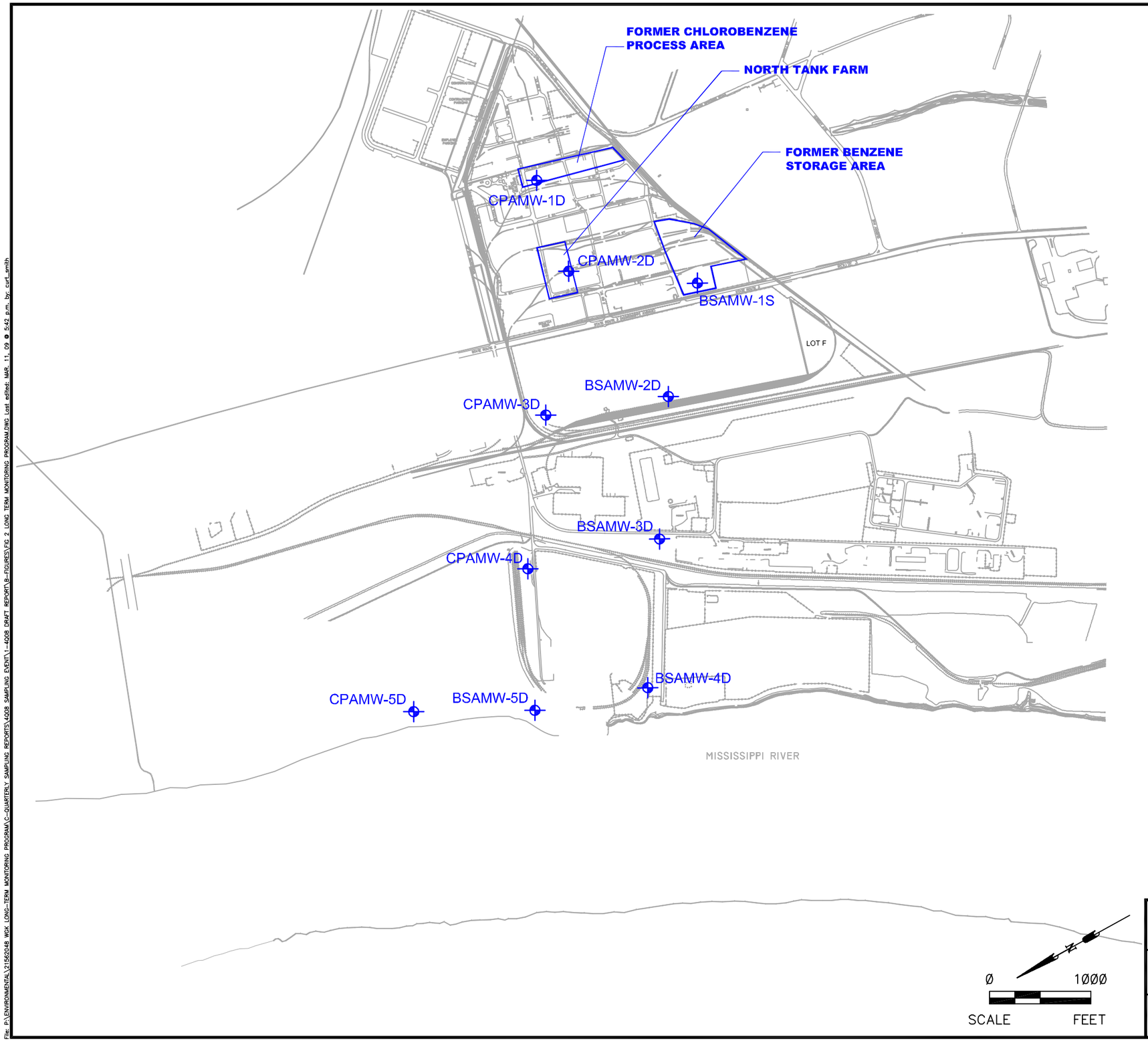
URS

DRN. BY: lrm 3/13/09
DSGN. BY: wh
CHKD. BY: wh

Site Location Map

FIG. NO. 1

File: P:\ENVIRONMENTAL\21562048 WGK LONG-TERM MONITORING PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG 1 SITE LOCATION MAP LONG TERM.DWG Last edited: MAR. 11, 09 @ 5:51 p.m. by: curt_smith

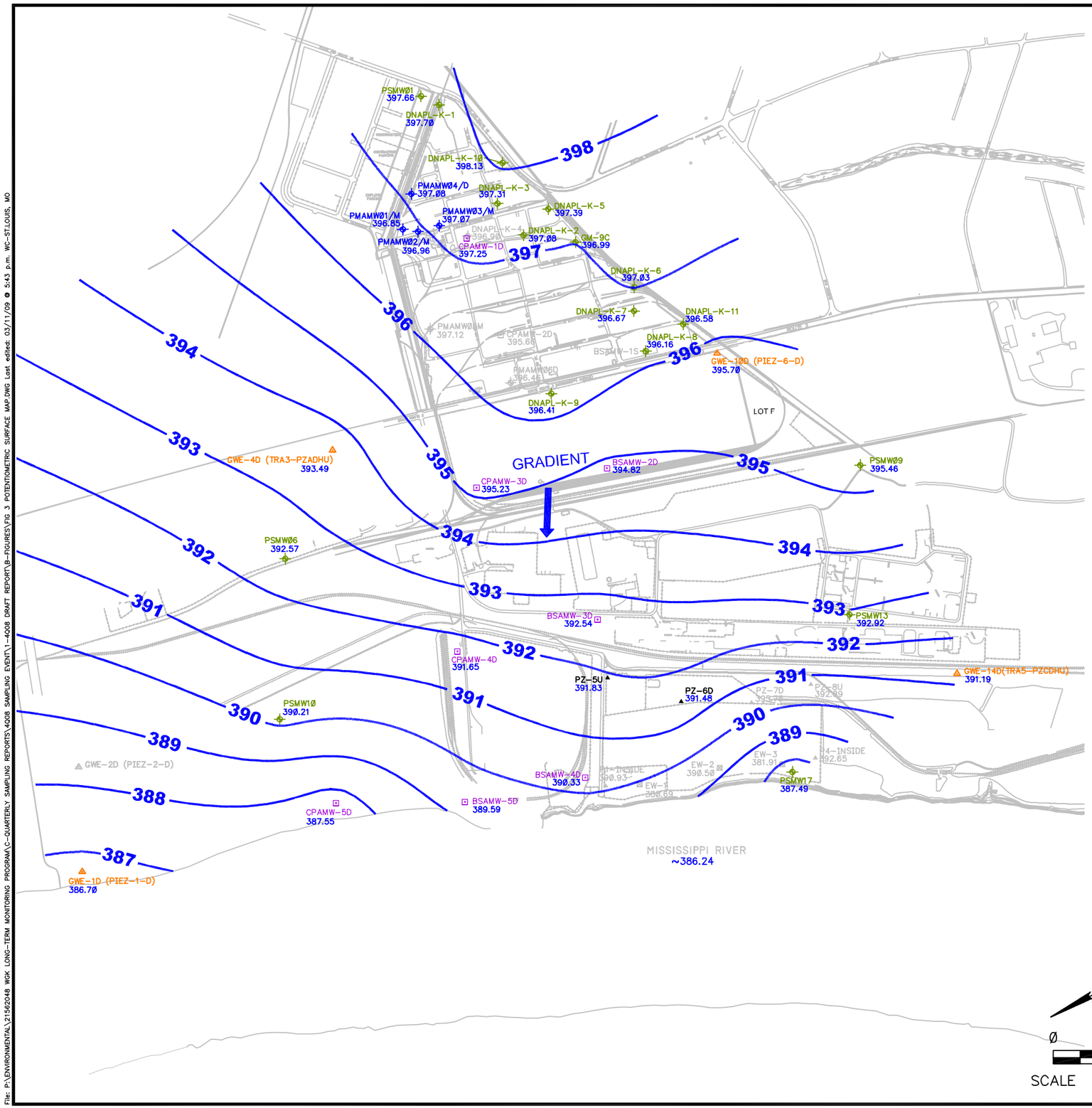


LEGEND

LONG-TERM MONITORING WELL LOCATION

LONG-TERM MONITORING PROGRAM 4TH QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562048
URS	
DRN. BY:lrm 3/13/09 DSGN. BY:ekf CHKD. BY:tja	Long-Term Monitoring Program Well Locations
	FIG. NO. 2

File: P:\ENVIRONMENTAL\21562048 WGK LONG-TERM MONITORING PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG 2 LONG TERM MONITORING PROGRAM.DWG Last edited: MAR. 11, 09 @ 5:42 p.m. by: curt_smith



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)
- INDICATES GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED NOVEMBER 17th, 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-7D, PZ-8U, 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, DNAPL-K-4, 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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SCALE FEET

LONG-TERM MONITORING PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562048

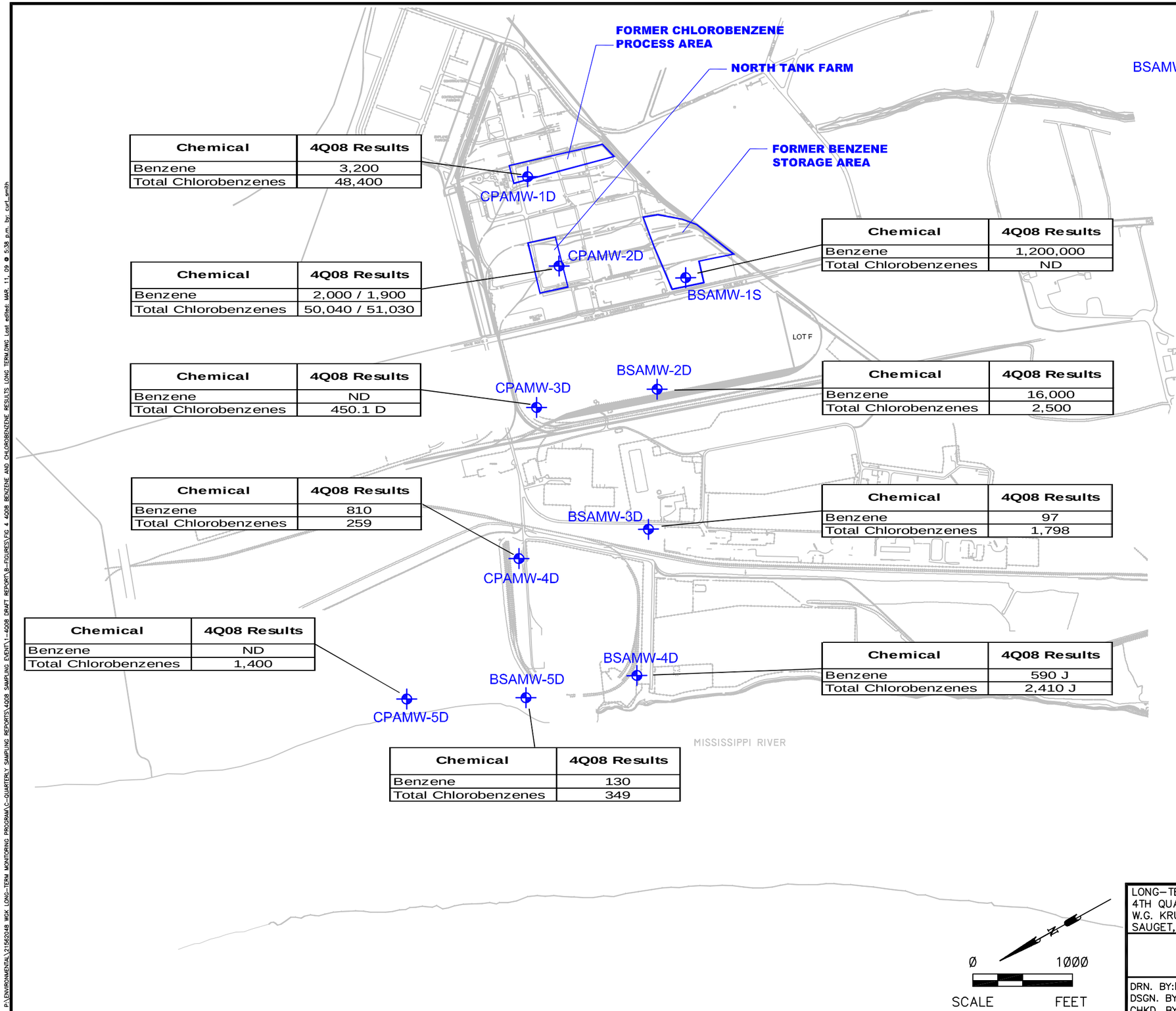
URS

DRN. BY: lrm 3/13/09
DSGN. BY: ekf
CHKD. BY: tja

Potentiometric Surface Map
Middle Deep Hydrogeologic Unit

FIG. NO. 3

File: P:\ENVIRONMENTAL\21562048 WGK LONG-TERM MONITORING PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG 3 POTENTIOMETRIC SURFACE MAP.DWG Last edited: 03/11/09 @ 5:43 p.m. WC-STLOUIS, MO



Chemical	4Q08 Results
Benzene	3,200
Total Chlorobenzenes	48,400

Chemical	4Q08 Results
Benzene	2,000 / 1,900
Total Chlorobenzenes	50,040 / 51,030

Chemical	4Q08 Results
Benzene	ND
Total Chlorobenzenes	450.1 D

Chemical	4Q08 Results
Benzene	810
Total Chlorobenzenes	259

Chemical	4Q08 Results
Benzene	ND
Total Chlorobenzenes	1,400

Chemical	4Q08 Results
Benzene	130
Total Chlorobenzenes	349

Chemical	4Q08 Results
Benzene	1,200,000
Total Chlorobenzenes	ND

Chemical	4Q08 Results
Benzene	16,000
Total Chlorobenzenes	2,500

Chemical	4Q08 Results
Benzene	97
Total Chlorobenzenes	1,798

Chemical	4Q08 Results
Benzene	590 J
Total Chlorobenzenes	2,410 J

LEGEND

BSAMW-1D — LONG-TERM MONITORING WELL LOCATION

NOTES:

1. TOTAL CHLOROBENZENES RESULTS INCLUDE THE SUM OF MONOCHLOROBENZENE, 1,2-DICHLOROBENZENE, 1,3-DICHLOROBENZENE, AND 1,4-DICHLOROBENZENE.
2. RESULTS SHOWN ARE IN ug/L.
3. ND DENOTES ANALYTE OR ANALYTES NOT DETECTED.
4. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE.
5. 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.
6. J = ESTIMATED VALUE.

LONG-TERM MONITORING PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562048

URS

DRN. BY: lrm 3/13/09
DSGN. BY: EKF
CHKD. BY: tja

4Q08 Benzene and Total Chlorobenzenes Results

FIG. NO. 4

File: P:\ENVIRONMENTAL\21562048 WGK LONG-TERM MONITORING PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG 4 4Q08 BENZENE AND CHLOROBENZENE RESULTS LONG TERM.DWG Last edited: MAR 11, 09 @ 5:38 p.m. by: curt_smith

Tables

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						17-Nov-08				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 btoc)	Depth to Product (feet btoc)	Depth to Bottom (feet btoc)	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	16.00	--	27.32	396.31	WGK
PMAMW01S	410.06	410.06	20.18	25.18	389.88	384.88	12.16	-	24.92	397.90	WGK
PMAMW02S	411.66	411.66	22.94	27.94	388.72	383.72	14.64	-	27.35	397.02	WGK
PMAMW03S	412.06	412.06	22.71	27.71	389.35	384.35	14.91	-	27.40	397.15	WGK
PMAMW04S	410.43	410.43	20.99	25.99	389.44	384.44	13.21	-	25.36	397.22	WGK
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)											
PMAMW01M	410.08	410.08	54.54	59.54	355.54	350.54	13.23	-	59.63	396.85	WGK
PMAMW02M	411.93	411.93	56.87	61.87	355.06	350.06	14.97	-	61.55	396.96	WGK
PMAMW03M	412.10	412.10	57.07	62.07	355.03	350.03	15.03	-	61.82	397.07	WGK
PMAMW05M	411.27	410.97	52.17	57.17	359.10	354.10	13.85	-	56.97	397.12	WGK
PSMW01	409.37	412.59	34.56	39.56	374.81	369.81	14.93	--	46.06	397.66	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	20.31	--	77.05	394.82	WGK
BSAMW-3D (PSMW12)	412.91	415.74	104.80	109.80	308.11	303.11	23.20	--	114.82	392.54	WGK
BSAMW-4D (PSMW16D)	425.00	424.69	118.54	123.54	306.46	301.46	34.36	--	123.21	390.33	WGK
BSAMW-5D (PSMW15D(R))	420.80	420.49	116.25	120.85	304.95	299.95	30.90	--	120.95	389.59	WGK
CPAMW-1D (PSMW03)	408.62	408.32	66.12	71.12	342.50	337.50	11.07	--	70.81	397.25	WGK
CPAMW-2D (PSMW04)	408.51	408.20	99.96	104.96	308.55	303.55	12.54	--	104.67	395.66	WGK
CPAMW-3D (PSMW07)	410.87	410.67	101.90	106.90	308.97	303.97	15.44	--	112.87	395.23	WGK
CPAMW-4D (PSMW11)	421.57	421.20	116.44	121.44	305.13	300.13	29.55	--	121.02	391.65	WGK
CPAMW-5D (PSMW14D)	411.03	413.15	105.51	110.51	305.52	300.52	25.60	--	114.69	387.55	WGK
DNAPL-K-1	413.07	415.56	108.2	123.2	304.87	289.87	17.86	--	123.18	397.70	WGK
DNAPL-K-2	407.94	407.72	97.63	112.63	310.31	295.31	10.64	--	112.40	397.08	WGK
DNAPL-K-3	412.13	411.91	104.8	119.8	307.33	292.33	14.60	--	119.33	397.31	WGK
DNAPL-K-4	409.48	409.15	102.55	117.55	306.93	291.93	12.25	--	NG	396.90	WGK
DNAPL-K-5	412.27	411.91	102.15	117.15	310.12	295.12	14.52	--	116.50	397.39	WGK
DNAPL-K-6	410.43	410.09	102.47	117.47	307.96	292.96	13.06	--	116.95	397.03	WGK
DNAPL-K-7	408.32	407.72	100.4	115.4	307.92	292.92	11.05	--	115.38	396.67	WGK
DNAPL-K-8	408.56	411.38	102.65	117.65	305.91	290.91	15.22	--	117.20	396.16	WGK
DNAPL-K-9	406.45	405.97	97.42	112.42	309.03	294.03	9.56	--	111.20	396.41	WGK
DNAPL-K-10	413.50	413.25	105.43	120.43	308.07	293.07	15.12	--	120.35	398.13	WGK
DNAPL-K-11	412.20	411.78	105.46	120.46	306.74	291.74	15.20	--	120.30	396.58	WGK
EW-1	442.02	422.72	53	131	369.02	291.02	NG	NG**	NG	380.69	Site R
EW-2	418.53	419.84	41.50	104.90	377.03	313.63	NG	NG**	NG	390.50	Site R
EW-3	420.58	421.45	56.70	126.00	363.88	294.58	NG	NG**	NG	381.91	Site R
GM-9C	409.54	411.21	88	108	321.54	301.54	14.22	--	108.40	396.99	WGK

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						17-Nov-08				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 btoc)	Depth to Product (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)	
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock) (continued)											
GWE-1D (PIEZ-1D)	412.80	415.60	117	127	295.80	285.80	28.90	--	NG	386.70	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	12.25	--	78.80	393.49	WGK
GWE-10D (PIEZ-6D)	410.15	412.87	102.5	112.5	307.65	297.65	17.17	--	114.88	395.70	Lot F
GWE-14D (TRA5-PZCDHU)	420.47	422.90	90	96	330.47	324.47	31.71	--	96.98	391.19	WGK
P1-INSIDE	423.00	424.26	55.00	130.00	368.00	293.00	NG	NG	NG	--	Site R
P4- INSIDE	420.50	423.64	52.50	132.50	368.00	288.00	NG	NG	NG	--	Site R
PMAMW04D (PSMW02)	411.22	410.88	68.84	73.84	342.38	337.38	13.8	-	73.37	397.08	WGK
PMAMW06D	407.63	407.32	96.49	101.49	311.14	306.14	10.86	-	101.29	396.46	WGK
PSMW06	404.11	406.63	99.80	104.80	304.31	299.31	14.06	--	109.84	392.57	WGK
PSMW09	403.92	403.52	100.40	105.40	303.52	298.52	8.06	--	105.15	395.46	WGK
PSMW10	409.63	412.18	101.23	106.23	308.40	303.40	21.97	--	111.31	390.21	WGK
PSMW13	405.80	405.53	106.08	111.08	299.72	294.72	12.61	--	110.24	392.92	WGK
PSMW17 (BWMW-4D)	420.22	423.26	121.25	126.25	298.97	293.97	35.77	--	134.06	387.49	WGK
PZ-5U	421.52	420.99	40.00	140.00	381.52	281.52	NG	NG**	NG	391.83	Site R
PZ-6D	421.64	418.64	41.70	131.70	377.55	287.55	NG	NG**	NG	391.48	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
** - Groundwater elevation obtained by automatic gauging equipment.
bgs - below ground surface
btoc - Below top of casing
NG - not gauged

Table 2
Groundwater Analytical Results

Sample ID	Sample Date	VOC (µg/L)						SVOC (µg/L)		
		Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,4-Dioxane	4-Chloroaniline	2-Chlorophenol	1,2,4 Trichlorobenzene
BENZENE STORAGE AREA										
BSAMW01S-1108	11/20/2008	**1,200,000**	<10,000	<10,000	<10,000	<10,000	NA	NA	*	*
BSAMW02D-1108	11/24/2008	**16,000**	**2,500**	<200	<200	<200	*	NA	*	*
BSAMW03D-1108	11/21/2008	**97**	**1,300**	**36**	**22**	**440**	*	NA	*	*
BSAMW04D-1108	11/20/2008	**590 J**	**2,300 J**	**37 J**	< 20 J	**73 J**	*	NA	*	*
BSAMW05D-1108	11/21/2008	**130**	**310**	**19**	<2	**20**	*	NA	*	*
CHLOROBENZENE PROCESS AREA										
CPAMW01D-1108	11/20/2008	**3,200**	**13,000**	**22,000**	**1,400**	**12,000**	NA	NA	*	*
CPAMW02D-1108	11/20/2008	**2,000**	**33,000**	**2,400**	**640**	**14,000**	NA	NA	*	*
CPAMW02D-1108-AD	11/20/2008	**1,900**	**33,000**	**2,400**	**630**	**15,000**	NA	NA	*	*
CPAMW03D-1108	11/24/2008	<53	**420 D**	**13**	**1**	**16**	NA	*	*	*
CPAMW04D-0808	11/21/2008	**810**	**220**	**18**	<10	**21**	NA	*	*	*
CPAMW05D-1108	11/24/2008	<15	**1,400**	<10	<10	<10	NA	*	*	*

Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given.
BOLD indicates concentration greater than reporting limit.
* = Indicates samples that are collected semi-annually (1st and 3rd Quarter)
AD = Analytical Duplicate
D = Surrogate or matrix sprike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J = Estimated value
NA = sample not analyzed for select analyte in accordance with LTMP Work Plan

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethylene (ug/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (ug/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Benzene Storage Area																		
BSAMW01S-1108	11/20/2008	930	32	110	6.87	<0.35	<0.33		2.5		0.39		5,800	<0.05	<5		7.6	-130.70
BSAMW01S-F(0.2)1108	11/20/2008							1.75		2.1		0.39				6.6		
BSAMW02D-1108	11/24/2008	660	29	94	5.8	6.6	1		1.8		0.34		3,300	<0.05	110		4.8	-112.00
BSAMW02D-F(0.2)-1108	11/24/2008							1.63		1.7		0.34				3.7		
BSAMW03D-1108	11/21/2008	500	8.2	73	6.48	2.4	<0.33		11		0.55		320	<0.05	260		3.8	-102.60
BSAMW03D-F(0.2)-1108	11/21/2008							>5.0		11		0.56				4.4		
BSAMW04D-1108	11/20/2008	600	40	120	5.85	5.6	<0.33		8.3		0.54		84	<0.05	130		5.5	-86.90
BSAMW04D-F(0.2)-1108	11/20/2008							>5.0		8.1		0.53				4		
BSAMW05D-1108	11/21/2008	780	20	310	6.68	13	<0.33		17		0.5		5,700	<0.05	<10		5.9	-100.20
BSAMW05D-F(0.2)-1108	11/21/2008							>5.0		17		0.51				5		
Chlorobenzene Process Area																		
CPAMW01D-1108	11/20/2008	1,100	<4	180	0.25	51	<0.33		1.7		0.11		15,000	<0.5	13		16	2.50
CPAMW01D-F(0.2)-1108	11/20/2008							0.56		1.4		0.097				13		
CPAMW02D-1108	11/20/2008	620	40	85	6.92	6.8	<0.33		5.3		0.33		1,400	<0.05	<5		11	104.80
CPAMW02D-F(0.2)-1108	11/20/2008							4.85		5.1		0.33				11		
CPAMW03D-1108	11/24/2008	690	56	390	6.09	49	<0.33		15		0.71		33,000	<0.05	<5		7.9	-87.00
CPAMW03D-F(0.2)-1108	11/24/2008							>5.0		15		0.76				6.8		
CPAMW04D-1108	11/21/2008	770	15	310	6.39	15	<0.33		13		0.27		9,000	<0.05	<5		6	-112.20
CPAMW04D-F(0.2)-1108	11/21/2008							>5.0		13		0.27				5.4		
CPAMW05D-1108	11/24/2008	340	110	330	6.26	8.6	<0.33		76		2.5		52	<0.05	1,500		3.6	-72.70
CPAMW05D-F(0.2)-1108	11/24/2008							>5.0		78		2.6				3.1		

Notes:
DO and ORP were measured in the field using YSI 6920 equipped with a flow-thru cell.
Ferrous Iron readings were measured in the field using a LaMotte Colorimeter after the groundwater passed through a 0.2 µ filter.
mg/L = milligrams per liter
ug/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given.
A blank space indicates sample not analyzed for select analyte.
F(0.2) = Sample was filtered utilizing a 0.2 µ filter in the field.
B = Compound was found in blank and sample
J = Estimated value
mV = millivolts
NC = Not collected

Appendix A

Groundwater Purging and Sampling Forms

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Salam & Shirey Moore
DATE: 11/ 20 /2008 WEATHER: ~35°F, Cloudy, windy
MONITORING WELL ID: BSAMW01 SAMPLE ID: BSAMW01-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 27.36 ft
Depth to Water (btoc): 16.10 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 22.50 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 11.20 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) = 19.26 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: 0.1 ppm
Wellbore PID/FID Reading: 79.2 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
200	1355	16.40	Dark gray	Chemical	7.41	14.39	1.817	86.7	0.83	-64.1
1550	1400	16.32			7.35	14.38	1.832	60.2	0.75	-90.4
2500	1405	16.21			7.32	14.39	1.853	53.0	1.34	-106.3
3650	1410	16.21			7.29	14.52	1.869	28.6	2.89	-117.6
4800	1415	16.21			7.28	14.43	1.870	19.9	4.81	-123.6
5950	1420	16.21	Clear		7.27	14.37	1.877	12.6	5.81	-126.9
7100	1425	16.21			7.26	14.43	1.876	12.6	6.71	-128.6
8250	1430	16.21			7.26	14.46	1.878	8.1	6.74	-129.0
9400	1435	16.21			7.26	14.45	1.879	8.0	6.78	-130.0
10550	1440	16.21			7.26	14.50	1.875	7.0	6.81	-130.2

Start Time: 1355
Stop Time: 1440
Elapsed Time: 50
Average Purge Rate (mL/min): 200 mL/m
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 19 /2008 End of the day

SAMPLING DATA

Sample Date: 11/20 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1440
Sample Flow Rate: 200 ml/min
Analysis: VOCs, SVOCs, PCBs, Metals, MNA
Date Calibrated: NA

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC

Ferrous Iron (Filtered 0.2 micron) = 1.75

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LMT Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Satam & M. Barbetta
DATE: 11/24 /2008 WEATHER: ~50°F, Windy, Sunny.
MONITORING WELL ID: BSAMW02 SAMPLE ID: BSAMW02-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 77.05 ft
Depth to Water (btoc): 20.70 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 72.05 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 56.35 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) = 21.2 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~~ ~~30~~ 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
200	1105	20.72	Clear	hydrocarbon	7.39	15.16 C	1.725	28.5	6.06	-53.0
1200	1110	20.72			7.39	15.20	1.724	25.6	6.04	-60.0
1300	1115	20.72			7.34	15.16	1.723	10.2	5.88	-97.8
1400	1120	20.72			7.35	15.25	1.727	4.8	5.87	-103.4
1500	1125	20.72			7.34	15.23	1.738	3.2	5.86	-104.9
1600	1130	20.72			7.33	15.23	1.733	2.1	4.98	-108.2
1700	1135	20.72			7.33	15.25	1.735	1.2	5.82	-110.2
1800	1140	20.72			7.33	15.27	1.733	1.2	5.83	-111.3
1900	1145	20.72			7.33	15.39	1.730	1.0	5.80	-112.0

Start Time: 1105
Stop Time: 1145
Elapsed Time: 40 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/24 /2008

SAMPLING DATA

Sample Date: 11/24 2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1145
Sample Flow Rate: 200 mL/min
Analysis: VOCs, ~~SVOCs~~, Metals, MNA
Date Calibrated: NA

COMMENTS:
MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC
Ferrous Iron (Filtered 0.2 micron) = 1.63

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program
PROJECT NUMBER: 21562048.00004
FIELD PERSONNEL: S. Moore, N. Sutton
DATE: 11/21/2008
WEATHER: 30s, Sunny
MONITORING WELL ID: BSAMW03
SAMPLE ID: BSAMW03-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 123.42 ft
Depth to Water (btoc): 114.78 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 109.85 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 9.56 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) = 67.1 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
860	1250	23.45	Clear	Musty	9.18	14.66	1.235	31.0	7.57	201
1400	1255	23.54			9.00	15.88	1.488	27.0	6.52	-54.0
2000	1300	23.62			8.96	15.14	1.562	10.0	6.62	-83.4
2550	1305	23.62			8.32	15.21	1.581	4.06	6.56	-93.2
3100	1310	23.62			8.31	15.13	1.591	2.02	6.54	-96.0
3650	1315	23.62			8.29	15.21	1.595	0.83	6.48	-100.6
4200	1320	23.62			8.28	15.21	1.599	0.3	6.47	-101.7
4750	1325	23.62			8.28	15.23	1.601	0.2	6.48	-102.1
5300	1330	23.62			8.28	15.22	1.602	0.0	6.48	-102.6

Start Time: 1250
Stop Time: 1330
Elapsed Time: 50
Average Purge Rate (mL/min): 250 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/21/2008

SAMPLING DATA

Sample Date: 11/21/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1330
Sample Flow Rate: 250 mL/min
Analysis: VOCs, ~~SVOCs, Metals~~, MNA SVOC not Sampled
Date Calibrated: ~~NA~~ 11/21/08

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC

Ferrous Iron (Filtered 0.2 micron) = Over range

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Satam and Stacy Moore
DATE: 11/20/2008 WEATHER: ~ 30°F, windy, cloudy
MONITORING WELL ID: BSAMW04 SAMPLE ID: BSAMW04-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 123.17 ft
Depth to Water (btoc): 34.41 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 118.54 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 88.76 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) = 76.29 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
~~1550~~ 100	1550	34.41	Clear	None	7.04	13.70	1.627	7.4	63.6	-69.1
~~1550~~ 1550	1555	34.41	↓	↓	7.00	13.53	1.650	7.4	61.7	-75.1
2500	1600	34.41	↓	↓	6.90	13.60	1.672	1.3	59.9	-85.5
3450	1605	34.41	↓	↓	6.85	13.61	1.672	1.2	59.7	-85.7
4200	1610	34.41	↓	↓	6.83	13.68	1.673	1.0	59.0	-86.2
5950	1615	34.41	↓	↓	6.82	13.68	1.672	0.0	58.9	-86.5
7100	1620	34.41	Clear	Clear	6.82	13.63	1.673	0.0	58.5	-86.9

Start Time: 1550
Stop Time: 1625
Elapsed Time: 30 mins
Average Purge Rate (mL/min): 600 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/19/2008 End of the day

SAMPLING DATA

Sample Date: 11/20/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1625
Sample Flow Rate: 200 mL/min
Analysis: VOCs, SVOCs, Metals, MNA
Date Calibrated: NA

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC

Ferrous Iron (Filtered 0.2 micron) = Overrange

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Satam and S. Moore
DATE: 11/21 /2008 WEATHER: ~30°F Sunny
MONITORING WELL ID: BSAMW05 SAMPLE ID: BSAMW05-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 120.92 ft
Depth to Water (btoc): 30.91 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 116.25 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 89.1 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) = 71.37 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
~~0835~~ 200	0835	30.91	Clear	None	8.20	13.41	2.377	581.2	7.07	-77.0
1350	0840	30.91	↓	↓	8.24	13.13	2.395	1354.0	7.07	-85.0
2500	0845	30.91			8.24	13.14	2.416	429.0	7.01	-90.3
2650	0850	30.91			8.24	13.14	2.413	391.0	6.92	-96.5
3800	0855	30.91			8.23	13.21	2.414	390.0	6.89	-97.6
4950	0900	30.91			8.23	13.21	2.417	16.6	6.90	-99.0
5100	0905	30.91			8.23	13.20	2.413	5.2	6.74	-100.1
6250	0910	30.91			8.22	13.31	2.412	4.67	6.70	-100.1
7400	0915	30.91			8.25	13.33	2.412	4.68	6.69	-99.9
8550	0920	30.91	↓	↓	8.22	13.32	2.412	4.68	6.68	-100.2

Start Time: 0835
Stop Time: ~~08~~ 0925
Elapsed Time: 45 min
Average Purge Rate (mL/min): 200 ml/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/21 /2008

SAMPLING DATA

Sample Date: 11/21 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 0925
Sample Flow Rate: 200ml/min
Analysis: VOCs, ~~SVOCs~~, Metals, MNA SVOC Sample not collected
Date Calibrated: NA

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC
Ferrous Iron (Filtered 0.2 micron) = Over range
Turbidity reading high although purge water is clear. Cleaned probe optics. Turbidity dropped down to 16.5

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Satem & S Moore
DATE: 11/ 20 /2008 WEATHER: ~35°F, Cloudy, windy
MONITORING WELL ID: CPAMW01 SAMPLE ID: CPAMW01-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 70.39 ft
Depth to Water (btoc): 11.15 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 66.12 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 59.24 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) = 67.69 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) = 68.50 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: 0.1 ppm
Wellbore PID/FID Reading: 3.4 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
2200	1115	11.18	Gray	Chemical	9.82	15.84	2.678	520	0.80	-13.5
1350	1120	11.18			9.23	15.81	2.674	487	0.79	-12.6
8500	1125	11.17			9.74	15.79	2.622	260.5	0.47	-8.3
3650	1130	11.17			9.71	15.73	2.604	168.5	0.42	-4.4
4800	1135	11.17			9.70	15.72	2.577	107.0	0.38	0.5
5950	1140	11.17			9.64	15.54	2.547	143.5	0.34	1.0
7100	1145	11.17			9.62	15.18	2.510	52.6	0.33	1.6
8250	1150	11.17			9.60	15.15	2.495	50.2	0.30	1.7
9400	1155	11.17			9.60	15.03	2.489	46.3	0.29	2.8
10550	1200	11.17			9.59	15.03	2.469	39.0	0.27	2.6
11700	1205	11.17	Clear		9.55	15.04	2.475	32.3	0.26	2.4
12850	1210	11.17			9.56	15.05	2.476	31.70	0.24	2.6
13500	1215	11.17			9.54	14.33	2.463	35.0	0.25	2.5

Start Time: 1115
Stop Time: 1215
Elapsed Time: 1 hr
Average Purge Rate (mL/min): 200 ml/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 20 /2008

SAMPLING DATA

Sample Date: 11/ 20 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1215
Sample Flow Rate: 200 ml/min
Analysis: VOCs, ~~SVOCs~~, PCBs, Metals, MNA
Date Calibrated: NA

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC

Ferrous Iron (Filtered 0.2 micron) = 0.56

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: N. Sutton, S. Moore
DATE: 11/20 /2008 WEATHER: ~30F, Cloudy
MONITORING WELL ID: CPAMW02 SAMPLE ID: CPAMW02-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 104.62 ft
Depth to Water (btoc): 12.70 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 99.96 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 91.92 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) = 102.12 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: NM ppm
Wellbore PID/FID Reading: NM ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
200	0920	12.71	Black-gray	Chemical	6.92	16.69	1.342	202.2	1.03	-86.5
1350	0925	12.79	↓	↓	6.94	16.67	1.346	165.5	0.87	-91.5
2500	0930	12.85	↓	↓	6.96	16.96	1.365	83.1	0.59	-98.3
3650	0935	12.87	↓	↓	6.96	16.84	1.377	41.5	0.52	-99.3
4800	0940	12.87	↓	↓	6.96	16.97	1.382	32.6	0.51	-101.8
5950	0945	12.89	Clear	↓	6.94	17.05	1.385	19.1	0.51	-101.9
7100	0950	12.89	↓	↓	6.94	17.06	1.391	13.5	0.58	-102.5
8250	0955	12.89	↓	↓	6.931	17.07	1.392	6.4	0.54	-103.5
9400	1000	12.89	↓	↓	6.92	17.05	1.395	4.5	0.52	-103.8
10550	1005	12.89	↓	↓	6.92	17.03	1.396	2.5	0.53	-104.8

Start Time: 0920
Stop Time: 1010
Elapsed Time: 50 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/20/2008

SAMPLING DATA

Sample Date: 11/20 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1010
Sample Flow Rate: 200 mL/min
Analysis: VOCs, ~~SVOCs~~, PCBs, Metals
Date Calibrated: ~~NA~~ 11/19/08 (end of day)

COMMENTS:
MNA - Alk., CO_2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC
Ferrous Iron (Filtered 0.2 micron) = 4.85

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LMT Program PROJECT NUMBER: 21562048.00004 FIELD PERSONNEL: Mike Corbett and N. Satour
DATE: 11/ 24 /2008 WEATHER: ~40°F, overcast, windy
MONITORING WELL ID: CPAMW03 SAMPLE ID: CPAMW03-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 113.0 ft
Depth to Water (btoc): 17.80 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 108.00 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 95.20 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) = 62.90 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~~ 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
200	0920	17.80	Cloudy	hydrocarbon	6.83	15.50	2.471	78.8	5.92	-70.9
1200	0925	17.80	↓	↓	6.89	15.03	2.475	55.1	5.96	-79.4
1300	0930	17.80	↓	↓	6.92	14.08	2.491	27.3	6.02	-92.2
1400	0935	17.80	Clear	↓	6.93	13.66	2.480	14.5	6.08	-92.7
1500	0940	17.80	↓	↓	6.93	13.64	2.473	5.2	6.06	-90.0
1600	0945	17.80	↓	↓	6.95	13.69	2.471	3.7	6.10	-89.9
1700	0950	17.80	↓	↓	6.93	13.70	2.469	3.2	6.12	-88.6
1800	0955	17.80	↓	↓	6.94	13.73	2.467	3.0	6.11	-87.2
1900	1000	17.80	↓	↓	6.95	13.75	2.465	2.7	6.09	-87.0

Start Time: 0920
Stop Time: 1000

Elapsed Time: 40 mins
Average Purge Rate (mL/min): 200mL/min

Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 24 /2008

SAMPLING DATA

Sample Date: 11/ 24 /2008
Sample Method: Stainless Steel Monsoon

Sample Time: 1000
Sample Flow Rate: 200mL/min

Analysis: VOCs, ~~SVOCs,~~ Metals, MNA ← Not collected
Date Calibrated: ~~NA~~ 11/24/8

COMMENTS:
MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC

Ferrous Iron (Filtered 0.2 micron) = Over range

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program
PROJECT NUMBER: 21562048.00004
FIELD PERSONNEL: S Moore, N. Sultan
DATE: 11/21/2008
WEATHER: 30s, sunny
MONITORING WELL ID: CPAMW04
SAMPLE ID: CPAMW04-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 120.96 ft
Depth to Water (btoc): 29.50 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 116.44 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 91.16 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) = 118.46 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
200	1107	29.80	colorless	none	8.45	15.09	2.332	3.7	6.85	-86.6
1400	1111	29.50	↓	↓	8.35	15.22	2.389	4.2	6.69	-103.7
2600	1115	29.50			8.33	15.45	2.385	6.6	6.47	-108.1
3800	1119	29.50			8.31	15.53	2.392	-0.2	6.40	-110.0
5000	1123	29.50			8.30	15.63	2.390	-0.1	6.39	-112.2

Start Time: 1105
Stop Time: 1125
Elapsed Time: 20 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/21/2008

SAMPLING DATA

Sample Date: 11/21/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1130
Sample Flow Rate: 300
Analysis: VOCs, ~~SVOCs~~, Metals, MNA
Date Calibrated: NA

COMMENTS:

MNA – Alkilinity, CO2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, TOC, DOC

Ferrous Iron (Filtered 0.2 micron) = Overrange

PURGE DATA CONTINUED: PSMW11

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: LTM Program
PROJECT NUMBER: 21562048.00004
FIELD PERSONNEL: N.Sutam & N. Satam
DATE: 11/24/2008
WEATHER: N 50°F, windy, sunny
MONITORING WELL ID: CPAMW05
SAMPLE ID: CPAMW05-1108

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 114.75 ft
Depth to Water (btoc): 26.55 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 109.75 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 88.20 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) = 68.15 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	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1150	1520	26.55	cloudy	none	6.75	14.65	3.790	8.0	4.640	-89.4
2150	1325	26.55	clear		6.61	14.57	3.792	6.1	6.32	-78.6
3150	1400	26.55			6.54	14.57	3.793	1.0	6.55	-73.0
4150	1405	26.55			6.55	14.55	3.796	0.7	6.26	-75.0
5150	1410	26.55			6.53	14.56	3.796	0.4	6.28	-72.6
6150	1415	26.55			6.54	14.58	3.747	0.3	6.27	-72.6
7150	1420	26.55			6.52	14.59	3.798	0.1	6.26	-72.7

Start Time: 1550
Stop Time: 1420
Elapsed Time: 30 mins
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/24/2008

SAMPLING DATA

Sample Date: 11/24/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1425
Sample Flow Rate: 200 mL/m
Analysis: VOCs, ~~SVOCs~~, Metals
Date Calibrated: NA 11/24/8

COMMENTS:

Ferrous Iron (Filtered 0.2 micron) = out of range

Appendix B

Chains-of-Custody

Serial Number 019042 Cooler 2

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)
WGK LTM	21562048.00004	IL
TAL (LAB) PROJECT MANAGER: Lidya Gulizia	P.O. NUMBER: —	CONTRACT NO.: —
CLIENT (SITE) PM: T. Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462
CLIENT NAME: WRS Corp.	CLIENT E-MAIL: thomas.adams@wrscorp.com	
CLIENT ADDRESS: 1001 Highlands Plaza Dr. W Ste 300 St. Louis, MO 63110		
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:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	HNO_3 Total Fe/Mn (6010B)	HCl 8260B-VOC	none 8270C-SVOC	none 310.1 Alk/CO_2	none 325.2/375.4 Sulfate/Chloride	none Methane RSK-175	H_2SO_4 353.2 Nitrate/Nitrite	HCl 415.1 TOC	HCl 415.1 DOC	HNO_3 Diss Fe/Mn (6010B)	REMARKS
11/20/08	1010	CPAMW02-1108 ✓	G	X				1	3	2	1	1	3	2	1			
	1010	CPAMW02-F-1108 ✓	G	X												1	1	
	1010	CPAMW02-1108-AD ✓	G	X				1	3	2	1	1	3	2	1			
	1010	CPAMW02-F-1108-AD	G	X												1	1	
	1215	CPAMW01-1108 ✓	G	X				1	3	2	1	1	3	2	1			
	1215	CPAMW01-F-1108 ✓	G	X												1	1	
	1440	BSAMW01-1108 ✓	G	X				1	3	2	1	1	3	2	1			
	1440	BSAMW01-F-1108 ✓	G	X												1	1	
	1620	BSA MW04-1108 ✓	G	X				1	3	2	1	1	3	2	1			
	1620	BSA MW04-F-1108 ✓	G	X												1	1	
		TB112008 ✓		X					3									

11/24/08 Per T. Adams, canceled SVOC analysis - JR Remaster

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/20/08	1700						
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LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	112108	0912	YES ○ NO ○		68042522	0.6/1.0 TEMP

Page 11 of 80

TAL0240-680 (1207)

Serial Number 019043

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 Long Term Mon.	PROJECT NO.: 21562048.00004	PROJECT LOCATION (STATE): IL
TAL (LAB) PROJECT MANAGER: Lidya Gulzia	P.O. NUMBER: —	CONTRACT NO.: —
CLIENT (SITE) PM: J. Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462
CLIENT NAME: URS Corp.	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): —		

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, ...)	6010B Total Fe Mn (HNO3)	8260B VOC (HCl)	310.1 Alk/CO2 (none)	325.2/375.4 Sulfate/Chloride (none)	Methane RSK175 (none)	353.2 Nitrate (H2SO4/none)	415.1 TOC (HCl)	415.1 DOC (HCl)	Diss Fe Mn 6010B (HNO3)	REMARKS
11/21/08	0925	BSAMW05-1108 ✓						1	3	2	1	2	2	2			
		BSAMW05-F-1108 ✓													1	1	
		BSAMW05-1108-MS ✓						1	3	1	1	3	2	1			
		BSAMW05-F-1108-MS ✓													1	1	
		BSAMW05-1108-MSD ✓						1	3	1	1	3	2	1			
		BSAMW05-F-1108-MSD ✓													1	1	
	1130	CPAMW04-1108 ✓						1	3	1	1	3	2	1			
	1130	CPAMW04-F-1108 ✓													1	1	
	1330	BSAMW03-1108 ✓						1	3	1	1	3	2	1			
	1330	BSAMW03-F-1108 ✓													1	1	
		TB 112108 ✓							3								

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/21/08	1600						
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]	112208	0950	YES ○ NO ○		08042573	2.2 TEMP

TAL8240-680 (1207)

Page 78 of 80

Serial Number 019045

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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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)
WGK Long Term Monitoring	21562048.00004	IL

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

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

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

CLIENT ADDRESS: 1001 Highlands Plaza Dr. West, St. Louis, MO 63110 Ste 300

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

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

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	VOC 8260B (HCl)	Total Fe-Mn 6010B (HNO_3)	Dissolved Fe-Mn 6010B (HNO_3)	Alk/CO_2 310.1 (none)	Sulfate/Chloride 325.2/375.4 (none)	Methane RSK175 (none)	Nitrate 353.2 (H_2SO_4)	TOC 415.1 (HCl)	DOC 415.1 (HCl)	REMARKS
11/24/08	—	TB112408 ✓		X				3									
	0850	BSAMW03-1108-EB ✓		X				3	1		1	1	3	2	1		
	0850	BSAMW03-F-1108-EB		X						1						1	
	1000	CPAMW03-1108 ✓		X				3	1		1	1	3	2	1		
	1000	CPAMW03-F-1108 ✓		X						1						1	
	1145	BSAMW02-1108 ✓		X				3	1		1	1	3	2	1		
	1145	BSAMW02-F-1108 ✓		X						1						1	
	1425	CPAMW05-1108 ✓		X				3	1		1	1	3	2	1		
↓	1425	CPAMW05-F-1108 ✓		X						1						1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/24/08	1630						

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]	112503	0901	YES ◯ NO ◯		00042600	4.6/2.0 TEMP

TAL8240-680 (1207)

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

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

Long-Term Monitoring Program
4th Quarter 2008 Data Report

Prepared for

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

March 2009

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562048.00004

1.0 INTRODUCTION 1

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES 3

3.0 TRIP BLANKS, LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES 4

4.0 SURROGATE SPIKE RECOVERIES 5

5.0 LABORATORY CONTROL SAMPLES RECOVERIES 5

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES 5

7.0 FIELD DUPLICATE RESULTS 5

8.0 INTERNAL STANDARD RESPONSES 6

9.0 RESULTS REPORTED FROM DILUTIONS 6

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in November 2008 at the Solutia W.G. Krummrich plant as part of the 4th Quarter 2008 Long-Term Monitoring Program. The samples were collected by URS Corporation personnel and analyzed by Test America Laboratories located in Savannah, Georgia using USEPA methods, Standard methods and USEPA SW-846 methodologies. Groundwater samples were tested for volatile organic compounds (VOCs), metals, dissolved gasses, and general chemistry.

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 14 samples (10 investigative groundwater samples, one field duplicate pair, one MS/MSD pair, and one equipment blank) were analyzed by Test America. These samples were analyzed as two Sample Delivery Groups (SDGs) KPS046 and KPS047 utilizing the following USEPA SW-846 Methods:

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

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

- Method RSK-175 for Dissolved Gasses
- USEPA Method 310.1 for Alkalinity
- USEPA Method 325.2 for Chloride
- USEPA Method 353.2 for Nitrogen, Nitrate-Nitrite
- USEPA Method 375.4 for Sulfate
- USEPA Method 415.1 for Total and Dissolved Organic Carbon

In addition, three trip blanks were included in the coolers that contained groundwater samples for VOC analysis and were analyzed for VOCs by USEPA SW-846 Method 8260B.

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004 and the Long-Term Monitoring Plan, 2008.

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

TABLE 1 Laboratory Data Qualifiers

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

TABLE 2 URS Data Qualifiers

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

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

values was 100 percent, which meets the completeness goal of 95 percent.

The data review included evaluation of the following criteria:

Organics

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

Inorganics/General chemistry

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

The following sections present the results of the data review.

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance. Upon review of the KPS046 data, all sample vials for samples CPAMW04-1108 were received by the laboratory with headspace. Sample CPAMW04-1108 was qualified using professional judgment due to headspace. Qualifications using professional judgment are included in the table below.

Field ID	Analyte	New RL	Qualification	Comments
CPAMW04-1108	All VOC detects and nondetects	-	**J/UJ**	Professional Judgment

Samples CPAMW02-1108-AD and CPAMW02-F-1108-AD were designated on the COC for MNA parameter analysis. MNA parameter analyses for these samples were cancelled by the lab at the request of URS. The cooler receipt form indicated a discrepancy between the sample IDs on the containers and the COC. All sample containers contained a D suffix though there weren't any D suffixes on the COCs. Sample identities were reported as from the COC and the quality of the data was not affected.

Upon review of the KPS047 data, the COC designated equipment blank sample BSAMW03-1108-EB to be analyzed for MNA parameters. MNA analyses for sample BSAMW03-1108-EB were cancelled by the laboratory at the request of URS. The cooler receipt form indicated that one out of three trip blank vials were received broken. The two intact trip blank vials contained sufficient sample for the requested analyses. Also one 125-ml bottle was received empty for sample CPAMW05-1108; sufficient sample was available in the remaining bottle for all requested analyses. Two out of three VOA vials for sample CPAMW03-1108 were received by the laboratory with headspace. The remaining vial without headspace was used for the requested analysis. No qualifications of data were required.

3.0 TRIP BLANKS, LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES

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

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. All method blank samples were nondetect. No qualification of data was required.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. All equipment blank samples were nondetect with the exception of those that are further discussed in data reviews in **Appendix D**. Qualifications due to blank contamination are included in the table below.

Field ID	Parameter	Analyte	New RL	Qualification
CPAMW03-1108	VOCs	Benzene	53	**U**
CPAMW05-1108	VOCs	Benzene	15	**U**

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 VOCs 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 acceptance criteria.

All surrogate recoveries were within evaluation criteria. Surrogates that were associated with quality control samples or were diluted out and not recovered did not require qualification. In addition, no qualification of data was required if only one SVOC acid or base fraction surrogate was outside criteria and USEPA National Functional Guidelines for Organic Data Review indicates to qualify data if two or more surrogates per SVOC fraction are outside criteria. No qualification of data was required.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

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

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

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

No qualifications were made to the data if the MS/MSD percent RPD was the only factor out 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. Groundwater samples spiked and analyzed as MS/MSDs and their respective recoveries are discussed further in data reviews in **Appendix D**. Qualifications due to MS/MSD recoveries outside of evaluation criteria are included in the table below:

Field ID	Parameter	Analyte	Qualification
CPAMW02-1108	General Chemistry	Nitrate	**UJ**
BSAMW05-1108	General Chemistry	Nitrate	**UJ**

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2

times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One pair of field duplicate samples were collected for the 10 investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). All groundwater 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. IS areas must be within -50 percent to +100 percent for VOCs.

The internal standards area responses for VOCs were verified for the data review. All groundwater IS responses met the criteria as described above; therefore, no qualification of data was required.

9.0 RESULTS REPORTED FROM DILUTIONS

Sulfate and nitrate samples were diluted due to high levels of target analytes. The diluted sample results for these analytes were reported for the associated samples.

Appendix D
Groundwater Analytical Results
(with Data Review Sheets)

SDG KPS046

Results of Samples from Wells:

BSAMW01
BSAMW03
BSAMW04
BSAMW05
CPAMW01
CPAMW02
CPAMW04

Solutia Krummrich Data Review

Laboratory SDG: KPS046

Reviewer: Elizabeth Kunkel

Date Reviewed: 01/13/2009

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999. USEPA National Functional Guidelines for Inorganic Data Review 2004.

Applicable Work Plan: WGK Long Term Monitoring Plan (Solutia 2008)

Sample Identification #	Sample Identification #
CPAMW02-1108	CPAMW02-F-1108
CPAMW02-1108-AD	CPAMW01-1108
CPAMW01-F-1108	BSAMW01-1108
BSAMW01-F-1108	BSAMW04-1108
BSAMW04-F-1108	TB112008
BSAMW05-1108	BSAMW05-F-1108
CPAMW04-1108	CPAMW04-F-1108
BSAMW03-1108	BSAMW03-F-1108
TB112108	

1.0 Data Package Completeness

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

No, several samples on the COC were designated for SVOC analysis. However, no sample containers were received for SVOC analysis. SVOC analysis is not required during the second and fourth quarters of this program. In addition, the samples CPAMW02-1108-AD and CPAMW02-F-1108-AD were designated on the COC for MNA parameter analysis. MNA parameter analyses for these samples were cancelled by the lab at the request of 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 several MS/MSD recoveries were outside evaluation criteria. MS/MSD recoveries and MS/MSD RPDs for benzene and chlorobenzene were outside evaluation criteria in sample BSAMW05-1108. MS/MSD recoveries for methane and chloride were outside evaluation criteria in sample BSAMW05-1108. MSD recoveries for iron, nitrate, nitrate-nitrite, and sulfate were outside evaluation criteria in sample BSAMW05-1108. MS/MSD recoveries for

chloride were outside evaluation criteria in sample BSAMW05-1108. MS/MSD recoveries for dissolved iron were outside evaluation criteria in sample BSAMW05-F-1108. MS recoveries for nitrate and nitrate-nitrite were outside evaluation criteria in sample CPAMW02-1108. Sample CPAMW04-1108 was qualified using professional judgment. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated a discrepancy between the sample IDs on the containers and the COC. All sample containers contained a D suffix though there weren't any D suffixes on the COCs. Sample identities were reported as from the COC and the quality of the data was not affected. Additionally, all sample vials for samples CPAMW04-1108 were received by the laboratory with headspace.

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.

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			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample BSAMW05-1108 was spiked and analyzed for VOCs, dissolved gases, total iron and manganese, chloride, nitrate and nitrate/nitrite, and sulfate, total and dissolved organic carbon. Sample BSAMW05-F-1108 was spiked and analyzed for dissolved iron and manganese. Sample CPAMW02-1108 was spiked and analyzed for nitrate and nitrate/nitrite.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
BSAMW05-1108	VOCs	Benzene	**58/161**	**43**	77-119/30
BSAMW05-1108	VOCs	Chlorobenzene	**32/315**	**59**	85-116/30
BSAMW05-1108	Dissolved Gases	Methane	**74/69**	1	75-125/30
CPAMW02-1108	General Chemistry	Nitrate	**88**/91	4	90-110/10
CPAMW02-1108	General Chemistry	Nitrate - Nitrite	**88**/91	4	90-110/10
BSAMW05-1108	General Chemistry	Nitrate	98/**89**	10	90-110/10
BSAMW05-1108	General Chemistry	Nitrate - Nitrite	98/**89**	10	90-110/10
BSAMW05-1108	General Chemistry	Sulfate	122/**128**	5	75-125/30

Analytical data that required qualification based on MS/MSD data are included in the table below. The MS/MSD recoveries for inorganic compounds with sample concentrations greater than four times (4X) the matrix spike concentration did not require evaluation or qualification. USEPA National Functional Guidelines for Organic Data Review indicates that organic data should not be qualified based on MS/MSD data alone and LCS recoveries were within evaluation criteria, therefore no qualification of the data was required.

Field ID	Parameter	Analyte	Qualification
CPAMW02-1108	General Chemistry	Nitrate	**UJ**
BSAMW05-1108	General Chemistry	Nitrate	**UJ**

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?

Yes, sample BSAMW04-1108 was duplicated and analyzed for alkalinity and carbon dioxide.

Were laboratory duplicate sample RPDs within criteria?

Yes

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?

Yes

Field ID	Field Duplicate ID
CPAMW02-1108	CPAMW02-1108-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?

No

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

Field ID	Parameter	Dilution Factor
CPAMW01-1108	Nitrate	10
BSAMW05-1108	Sulfate	2

12.0 Additional Qualifications

Were additional qualifications applied?

Yes

Professional judgment was used to qualify VOCs in sample CPAMW04-1108 due to potential loss (volatilization) of analytes due to headspace in all sample vials.

Field ID	Analyte	New RL	Qualification	Comments
CPAMW04-1108	All VOC detects and nondetects	-	**J/UJ**	Professional Judgment

SAMPLE SUMMARY

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-42522-1	CPAMW02-1108	Water	11/20/2008 1010	11/21/2008 0912
680-42522-2	CPAMW02-F-1108	Water	11/20/2008 1010	11/21/2008 0912
680-42522-3FD	CPAMW02-1108-AD	Water	11/20/2008 1010	11/21/2008 0912
680-42522-5	CPAMW01-1108	Water	11/20/2008 1215	11/21/2008 0912
680-42522-6	CPAMW01-F-1108	Water	11/20/2008 1215	11/21/2008 0912
680-42522-7	BSAMW01-1108	Water	11/20/2008 1440	11/21/2008 0912
680-42522-8	BSAMW01-F-1108	Water	11/20/2008 1440	11/21/2008 0912
680-42522-9	BSAMW04-1108	Water	11/20/2008 1620	11/21/2008 0912
680-42522-10	BSAMW04-F-1108	Water	11/20/2008 1620	11/21/2008 0912
680-42522-11TB	TB112008	Water	11/20/2008 0000	11/21/2008 0912
680-42573-1	BSAMW05-1108	Water	11/21/2008 0925	11/22/2008 0950
680-42573-1MS	BSAMW05-1108 MS	Water	11/21/2008 0925	11/22/2008 0950
680-42573-1MSD	BSAMW05-1108 MSD	Water	11/21/2008 0925	11/22/2008 0950
680-42573-2	BSAMW05-F-1108	Water	11/21/2008 0925	11/22/2008 0950
680-42573-2MS	BSAMW05-F-1108 MS	Water	11/21/2008 0925	11/22/2008 0950
680-42573-2MSD	BSAMW05-F-1108 MSD	Water	11/21/2008 0925	11/22/2008 0950
680-42573-3	CPAMW04-1108	Water	11/21/2008 1130	11/22/2008 0950
680-42573-4	CPAMW04-F-1108	Water	11/21/2008 1130	11/22/2008 0950
680-42573-5	BSAMW03-1108	Water	11/21/2008 1330	11/22/2008 0950
680-42573-6	BSAMW03-F-1108	Water	11/21/2008 1330	11/22/2008 0950
680-42573-7TB	TB 112108	Water	11/21/2008 0000	11/22/2008 0950

21

SAMPLE RESULTS

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW02-1108**

Lab Sample ID: 680-42522-1
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 200
Date Analyzed: 11/28/2008 1356
Date Prepared: 11/28/2008 1356

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6501.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	2000		200
Chlorobenzene	33000		200
1,2-Dichlorobenzene	2400		200
1,3-Dichlorobenzene	640		200
1,4-Dichlorobenzene	14000		200

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	107	75 - 120
Dibromofluoromethane	93	75 - 121
Toluene-d8 (Surr)	106	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW02-1108-AD**

Lab Sample ID: 680-42522-3FD
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 200
Date Analyzed: 11/28/2008 1425
Date Prepared: 11/28/2008 1425

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6503.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1900		200
Chlorobenzene	33000		200
1,2-Dichlorobenzene	2400		200
1,3-Dichlorobenzene	630		200
1,4-Dichlorobenzene	15000		200

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	105	75 - 120
Dibromofluoromethane	94	75 - 121
Toluene-d8 (Surr)	106	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW01-1108**

Lab Sample ID: 680-42522-5
Client Matrix: Water

Date Sampled: 11/20/2008 1215
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 200
Date Analyzed: 11/28/2008 1454
Date Prepared: 11/28/2008 1454

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6505.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	3200		200
Chlorobenzene	13000		200
1,2-Dichlorobenzene	22000		200
1,3-Dichlorobenzene	1400		200
1,4-Dichlorobenzene	12000		200

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	107	75 - 120
Dibromofluoromethane	93	75 - 121
Toluene-d8 (Surr)	108	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW01-1108**

Lab Sample ID: 680-42522-7
Client Matrix: Water

Date Sampled: 11/20/2008 1440
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 10000
Date Analyzed: 11/28/2008 1523
Date Prepared: 11/28/2008 1523

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6507.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1200000		10000
Chlorobenzene	10000	U	10000
1,2-Dichlorobenzene	10000	U	10000
1,3-Dichlorobenzene	10000	U	10000
1,4-Dichlorobenzene	10000	U	10000

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	104	75 - 120
Dibromofluoromethane	95	75 - 121
Toluene-d8 (Surr)	109	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW04-1108**

Lab Sample ID: 680-42522-9
Client Matrix: Water

Date Sampled: 11/20/2008 1620
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 20
Date Analyzed: 11/28/2008 1552
Date Prepared: 11/28/2008 1552

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6509.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	590		20
Chlorobenzene	2300		20
1,2-Dichlorobenzene	37		20
1,3-Dichlorobenzene	20	U	20
1,4-Dichlorobenzene	73		20

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	107	75 - 120
Dibromofluoromethane	94	75 - 121
Toluene-d8 (Surr)	109	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **TB112008**

Lab Sample ID: 680-42522-11TB
Client Matrix: Water

Date Sampled: 11/20/2008 0000
Date Received: 11/21/2008 0912

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 11/28/2008 1258
Date Prepared: 11/28/2008 1258

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6497.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.0	U	1.0
Chlorobenzene	1.0	U	1.0
1,2-Dichlorobenzene	1.0	U	1.0
1,3-Dichlorobenzene	1.0	U	1.0
1,4-Dichlorobenzene	1.0	U	1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	104	75 - 120
Dibromofluoromethane	96	75 - 121
Toluene-d8 (Surr)	104	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW05-1108**

Lab Sample ID: 680-42573-1
Client Matrix: Water

Date Sampled: 11/21/2008 0925
Date Received: 11/22/2008 0950

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 2.0
Date Analyzed: 11/28/2008 1621
Date Prepared: 11/28/2008 1621

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6511.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	130		2.0
Chlorobenzene	310		2.0
1,2-Dichlorobenzene	19		2.0
1,3-Dichlorobenzene	2.0	U	2.0
1,4-Dichlorobenzene	20		2.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	109	75 - 120
Dibromofluoromethane	86	75 - 121
Toluene-d8 (Surr)	111	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW04-1108**

Lab Sample ID: 680-42573-3
Client Matrix: Water

Date Sampled: 11/21/2008 1130
Date Received: 11/22/2008 0950

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 10
Date Analyzed: 11/28/2008 1649
Date Prepared: 11/28/2008 1649

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6513.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	810		10
Chlorobenzene	220		10
1,2-Dichlorobenzene	18		10
1,3-Dichlorobenzene	10		10
1,4-Dichlorobenzene	21		10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	106	75 - 120
Dibromofluoromethane	93	75 - 121
Toluene-d8 (Surr)	110	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW03-1108**

Lab Sample ID: 680-42573-5
Client Matrix: Water

Date Sampled: 11/21/2008 1330
Date Received: 11/22/2008 0950

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 10
Date Analyzed: 11/28/2008 1718
Date Prepared: 11/28/2008 1718

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6515.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	97		10
Chlorobenzene	1300		10
1,2-Dichlorobenzene	36		10
1,3-Dichlorobenzene	22		10
1,4-Dichlorobenzene	440		10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	107	75 - 120
Dibromofluoromethane	92	75 - 121
Toluene-d8 (Surr)	107	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **TB 112108**

Lab Sample ID: 680-42573-7TB
Client Matrix: Water

Date Sampled: 11/21/2008 0000
Date Received: 11/22/2008 0950

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 11/28/2008 1229
Date Prepared: 11/28/2008 1229

Analysis Batch: 680-124112

Instrument ID: GC/MS Volatiles - O
Lab File ID: o6495.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.0	U	1.0
Chlorobenzene	1.0	U	1.0
1,2-Dichlorobenzene	1.0	U	1.0
1,3-Dichlorobenzene	1.0	U	1.0
1,4-Dichlorobenzene	1.0	U	1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	104	75 - 120
Dibromofluoromethane	98	75 - 121
Toluene-d8 (Surr)	106	75 - 120

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW02-1108**

Lab Sample ID: 680-42522-1
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0917
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12021.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	6.8		0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0917
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12021.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	1400		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW01-1108**

Lab Sample ID: 680-42522-5
Client Matrix: Water

Date Sampled: 11/20/2008 1215
Date Received: 11/21/2008 0912

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0930
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12022.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	51		0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0930
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12022.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	15000		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW01-1108**

Lab Sample ID: 680-42522-7
Client Matrix: Water

Date Sampled: 11/20/2008 1440
Date Received: 11/21/2008 0912

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0943
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12023.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	0.35	U	0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0943
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12023.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	5800		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW04-1108**

Lab Sample ID: 680-42522-9
Client Matrix: Water

Date Sampled: 11/20/2008 1620
Date Received: 11/21/2008 0912

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 0956
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12024.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	5.6		0.35
Ethylene	0.33	U	0.33
Methane	84		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW05-1108**

Lab Sample ID: 680-42573-1
Client Matrix: Water

Date Sampled: 11/21/2008 0925
Date Received: 11/22/2008 0950

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1009
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12025.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	13		0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1009
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12025.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	5700		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW04-1108**

Lab Sample ID: 680-42573-3
Client Matrix: Water

Date Sampled: 11/21/2008 1130
Date Received: 11/22/2008 0950

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1022
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12026.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	15		0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1022
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12026.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	9000		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW03-1108**

Lab Sample ID: 680-42573-5
Client Matrix: Water

Date Sampled: 11/21/2008 1330
Date Received: 11/22/2008 0950

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1034
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12027.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	2.4		0.35
Ethylene	0.33	U	0.33
Methane	320		0.19

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW02-1108**

Lab Sample ID: 680-42522-1
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

6010B Metals (ICP)-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 12/04/2008 2034
Date Prepared: 12/03/2008 1707

Analysis Batch: 680-124550
Prep Batch: 680-124341

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	RL
Iron	5.3		0.050
Manganese	0.33		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW02-F-1108**

Lab Sample ID:	680-42522-2	Date Sampled:	11/20/2008 1010
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2039		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	5.1		0.050
Manganese, Dissolved	0.33		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW01-1108**

Lab Sample ID:	680-42522-5	Date Sampled:	11/20/2008 1215
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2044		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	1.7		0.050
Manganese	0.11		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW01-F-1108**

Lab Sample ID:	680-42522-6	Date Sampled:	11/20/2008 1215
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2049		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	1.4		0.050
Manganese, Dissolved	0.097		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW01-1108**

Lab Sample ID:	680-42522-7	Date Sampled:	11/20/2008 1440
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550		Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2054			Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707				

Analyte	Result (mg/L)	Qualifier	RL
Iron	2.5		0.050
Manganese	0.39		0.010

Analytical Data

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW01-F-1108**

Lab Sample ID:	680-42522-8	Date Sampled:	11/20/2008 1440
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2059		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	2.1		0.050
Manganese, Dissolved	0.39		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW04-1108**

Lab Sample ID:	680-42522-9	Date Sampled:	11/20/2008 1620
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2105		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	8.3		0.050
Manganese	0.54		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW04-F-1108**

Lab Sample ID:	680-42522-10	Date Sampled:	11/20/2008 1620
Client Matrix:	Water	Date Received:	11/21/2008 0912

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2110		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	8.1		0.050
Manganese, Dissolved	0.53		0.010

Analytical Data

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW05-1108**

Lab Sample ID:	680-42573-1	Date Sampled:	11/21/2008 0925
Client Matrix:	Water	Date Received:	11/22/2008 0950

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2125		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	17		0.050
Manganese	0.50		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW05-F-1108**

Lab Sample ID:	680-42573-2	Date Sampled:	11/21/2008 0925
Client Matrix:	Water	Date Received:	11/22/2008 0950

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2150		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	17		0.050
Manganese, Dissolved	0.51		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW04-1108**

Lab Sample ID: 680-42573-3
Client Matrix: Water

Date Sampled: 11/21/2008 1130
Date Received: 11/22/2008 0950

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550		Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2205			Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707				

Analyte	Result (mg/L)	Qualifier	RL
Iron	13		0.050
Manganese	0.27		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **CPAMW04-F-1108**

Lab Sample ID:	680-42573-4	Date Sampled:	11/21/2008 1130
Client Matrix:	Water	Date Received:	11/22/2008 0950

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2210		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	13		0.050
Manganese, Dissolved	0.27		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW03-1108**

Lab Sample ID:	680-42573-5	Date Sampled:	11/21/2008 1330
Client Matrix:	Water	Date Received:	11/22/2008 0950

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2225		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	11		0.050
Manganese	0.55		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Client Sample ID: **BSAMW03-F-1108**

Lab Sample ID: 680-42573-6
Client Matrix: Water

Date Sampled: 11/21/2008 1330
Date Received: 11/22/2008 0950

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550		Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2230			Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707				

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	11		0.050
Manganese, Dissolved	0.56		0.010

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

General Chemistry

Client Sample ID: **CPAMW02-1108**

Lab Sample ID: 680-42522-1
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	85		mg/L		1.0	1.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1251			
Nitrate as N	0.050	~~U~~ UJ	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124045		Date Analyzed	11/21/2008 1555			
Sulfate	5.0	U	mg/L		5.0	1.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1341			
Total Organic Carbon	11		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1501			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	620		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1554			
Carbon Dioxide, Free	40		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1554			

Client Sample ID: **CPAMW02-F-1108**

Lab Sample ID: 680-42522-2
Client Matrix: Water

Date Sampled: 11/20/2008 1010
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	11		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

General Chemistry

Client Sample ID: **CPAMW01-1108**

Lab Sample ID: 680-42522-5
Client Matrix: Water

Date Sampled: 11/20/2008 1215
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	180		mg/L		2.0	2.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1255			
Nitrate as N	0.50	U	mg/L		0.50	10	353.2
	Anly Batch: 680-124045		Date Analyzed	11/21/2008 1555			
Sulfate	13		mg/L		5.0	1.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1341			
Total Organic Carbon	16		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1518			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	1100		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1618			
Carbon Dioxide, Free	4.0	U	mg/L		4.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1618			

Client Sample ID: **CPAMW01-F-1108**

Lab Sample ID: 680-42522-6
Client Matrix: Water

Date Sampled: 11/20/2008 1215
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	13		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

General Chemistry

Client Sample ID: **BSAMW01-1108**

Lab Sample ID: 680-42522-7
Client Matrix: Water

Date Sampled: 11/20/2008 1440
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	110		mg/L		2.0	2.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1255			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124045		Date Analyzed	11/21/2008 1555			
Sulfate	5.0	U	mg/L		5.0	1.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1341			
Total Organic Carbon	7.6		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1431			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	930		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1631			
Carbon Dioxide, Free	32		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1631			

Client Sample ID: **BSAMW01-F-1108**

Lab Sample ID: 680-42522-8
Client Matrix: Water

Date Sampled: 11/20/2008 1440
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	6.6		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

General Chemistry

Client Sample ID: **BSAMW04-1108**

Lab Sample ID: 680-42522-9
Client Matrix: Water

Date Sampled: 11/20/2008 1620
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	120		mg/L		2.0	2.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1302			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124045		Date Analyzed	11/21/2008 1555			
Sulfate	130		mg/L		25	5.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1413			
Total Organic Carbon	5.5		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1447			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	600		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1641			
Carbon Dioxide, Free	40		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123541		Date Analyzed	11/21/2008 1641			

Client Sample ID: **BSAMW04-F-1108**

Lab Sample ID: 680-42522-10
Client Matrix: Water

Date Sampled: 11/20/2008 1620
Date Received: 11/21/2008 0912

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	4.0		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

General Chemistry

Client Sample ID: **BSAMW05-1108**

Lab Sample ID: 680-42573-1
Client Matrix: Water

Date Sampled: 11/21/2008 0925
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	310		mg/L		5.0	5.0	325.2
	Anly Batch: 680-123922	Date Analyzed		11/26/2008 1341			
Nitrate as N	0.050	UJ	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124047	Date Analyzed		11/22/2008 1510			
Sulfate	10	U	mg/L		10	2.0	375.4
	Anly Batch: 680-124444	Date Analyzed		12/04/2008 1437			
Total Organic Carbon	5.9		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401	Date Analyzed		12/03/2008 1535			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	780		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897	Date Analyzed		11/26/2008 0923			
Carbon Dioxide, Free	20		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897	Date Analyzed		11/26/2008 0923			

Client Sample ID: **BSAMW05-F-1108**

Lab Sample ID: 680-42573-2
Client Matrix: Water

Date Sampled: 11/21/2008 0925
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	5.0		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124677	Date Analyzed		12/05/2008 0959			

General Chemistry

Client Sample ID: **CPAMW04-1108**

Lab Sample ID: 680-42573-3
Client Matrix: Water

Date Sampled: 11/21/2008 1130
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	310		mg/L		5.0	5.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1341			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124045		Date Analyzed	11/22/2008 1510			
Sulfate	5.0	U	mg/L		5.0	1.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1343			
Total Organic Carbon	6.0		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1620			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	770		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 0934			
Carbon Dioxide, Free	15		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 0934			

Client Sample ID: **CPAMW04-F-1108**

Lab Sample ID: 680-42573-4
Client Matrix: Water

Date Sampled: 11/21/2008 1130
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	5.4		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124677		Date Analyzed	12/05/2008 0959			

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

General Chemistry

Client Sample ID: **BSAMW03-1108**

Lab Sample ID: 680-42573-5
Client Matrix: Water

Date Sampled: 11/21/2008 1330
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	73		mg/L		1.0	1.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1251			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124045		Date Analyzed	11/22/2008 1510			
Sulfate	260		mg/L		50	10	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1423			
Total Organic Carbon	3.8		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1704			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	500		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 0944			
Carbon Dioxide, Free	8.2		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 0944			

Client Sample ID: **BSAMW03-F-1108**

Lab Sample ID: 680-42573-6
Client Matrix: Water

Date Sampled: 11/21/2008 1330
Date Received: 11/22/2008 0950

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	4.4		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124677		Date Analyzed	12/05/2008 0959			

DATA REPORTING QUALIFIERS

Client: URS Corporation

Job Number: 680-42522-1
Sdg Number: KPS046

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
	E	Result exceeded calibration range, secondary dilution required.
	F	RPD of the MS and MSD exceeds the control limits
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
Metals		
	U	Indicates the analyte was analyzed for but not detected.
	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.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
	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.

SDG KPS047

Results of Samples from Wells:

BSAMW02
CPAMW03
CPAMW05

Solutia Krummrich Data Review

Laboratory SDG: KPS047

Reviewer: Elizabeth Kunkel

Date Reviewed: 1/13/2009

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999. USEPA National Functional Guidelines for Inorganic Data Review 2004.

Applicable Work Plan: WGK Long Term Monitoring Plan (Solutia 2008)

Sample Identification #	Sample Identification #
TB112408	BSAMW03-1108-EB
CPAMW03-1108	CPAMW03-F-1108
BSAMW02-1108	BSAMW02-F-1108
CPAMW05-1108	CPAMW05-F-1108

1.0 Data Package Completeness

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

No, the COC designated equipment blank sample BSAMW03-1108-EB to be analyzed for MNA parameters. MNA analyses for sample BSAMW03-1108-EB were cancelled by the laboratory at the request of 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 VOCs were detected in the equipment blank. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one out of three trip blank vials were received broken. The two intact trip blank vials contained sufficient sample for the requested analyses. Also one 125-ml bottle was received empty for sample CPAMW05-1108; sufficient sample was available in the remaining bottle for all requested analyses. Two out of three VOA vials for sample CPAMW03-1108 were received by the laboratory with headspace. The remaining vial without headspace was used for the requested analysis. No qualifications of data were required.

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?

Yes

Blank ID	Parameter	Analyte	Concentration	Units
BSAMW03-108-EB	VOCs	Benzene	37	µg/L
BSAMW03-108-EB	VOCs	Chlorobenzene	1.1	mg/L
BSAMW03-108-EB	VOCs	1,2-Dichlorobenzene	2.2	mg/L
BSAMW03-108-EB	VOCs	1,4-Dichlorobenzene	1.8	mg/L

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. Equipment blank sample BSAMW03-108-EB was reanalyzed to confirm the detections in the original sample. The result from the original sample will be reported.

Field ID	Parameter	Analyte	New RL	Qualification
CPAMW03-1108	VOCs	Benzene	53	**U**
CPAMW05-1108	VOCs	Benzene	15	**U**

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			

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?

Analytes were detected in samples that were 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: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-42600-1TB	TB112408	Water	11/24/2008 0000	11/25/2008 0854
680-42600-2EB	BSAMW03-108-EB	Water	11/24/2008 0850	11/25/2008 0854
680-42600-4	CPAMW03-1108	Water	11/24/2008 1000	11/25/2008 0854
680-42600-5	CPAMW03-F-1108	Water	11/24/2008 1000	11/25/2008 0854
680-42600-6	BSAMW02-1108	Water	11/24/2008 1145	11/25/2008 0854
680-42600-7	BSAMW02-F-1108	Water	11/24/2008 1145	11/25/2008 0854
680-42600-8	CPAMW05-1108	Water	11/24/2008 1425	11/25/2008 0854
680-42600-9	CPAMW05-F-1108	Water	11/24/2008 1425	11/25/2008 0854

SAMPLE RESULTS

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **TB112408**

Lab Sample ID: 680-42600-1TB
Client Matrix: Water

Date Sampled: 11/24/2008 0000
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/01/2008 1640
Date Prepared: 12/01/2008 1640

Analysis Batch: 680-124153

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0035.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	1.0	U	1.0
Chlorobenzene	1.0	U	1.0
1,2-Dichlorobenzene	1.0	U	1.0
1,3-Dichlorobenzene	1.0	U	1.0
1,4-Dichlorobenzene	1.0	U	1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	87	75 - 120
Dibromofluoromethane	115	75 - 121
Toluene-d8 (Surr)	93	75 - 120

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW03-108-EB**

Lab Sample ID: 680-42600-2EB
Client Matrix: Water

Date Sampled: 11/24/2008 0850
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/01/2008 1739
Date Prepared: 12/01/2008 1739

Analysis Batch: 680-124153

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0039.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	37		1.0
Chlorobenzene	1.1		1.0
1,2-Dichlorobenzene	2.2		1.0
1,3-Dichlorobenzene	1.0	U	1.0
1,4-Dichlorobenzene	1.8		1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	93	75 - 120
Dibromofluoromethane	115	75 - 121
Toluene-d8 (Surr)	93	75 - 120

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW03-108-EB**

Lab Sample ID: 680-42600-2EB
Client Matrix: Water

Date Sampled: 11/24/2008 0850
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/02/2008 1313
Date Prepared: 12/02/2008 1313

Analysis Batch: 680-124211
Run Type: RA

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0069.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	42		1.0
Chlorobenzene	1.3		1.0
1,2-Dichlorobenzene	3.2		1.0
1,3-Dichlorobenzene	1.0	U	1.0
1,4-Dichlorobenzene	2.9		1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	92	75 - 120
Dibromofluoromethane	113	75 - 121
Toluene-d8 (Surr)	97	75 - 120

Do not use this data. Use all other data.

Analytical Data

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW03-1108**

Lab Sample ID: 680-42600-4
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 12/01/2008 1907
Date Prepared: 12/01/2008 1907

Analysis Batch: 680-124153

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0045.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	~~53~~ 0.0 ND	"U"	~~1.0~~ 53
~~Chlorobenzene~~	~~490~~	~~E~~	~~1.0~~
1,2-Dichlorobenzene	13		1.0
1,3-Dichlorobenzene	1.1		1.0
1,4-Dichlorobenzene	16		1.0

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	95	75 - 120
Dibromofluoromethane	115	75 - 121
Toluene-d8 (Surr)	94	75 - 120

* Use these results only. All other data was reported from the 1.0 dilution (undiluted) analysis.

Analytical Data

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW03-1108**

Lab Sample ID: 680-42600-4
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 4.0
Date Analyzed: 12/02/2008 0000
Date Prepared: 12/02/2008 0000

Analysis Batch: 680-124153
Run Type: DL

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0065.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
~~Benzene~~	~~46~~	~~D~~	~~4.0~~
* Chlorobenzene	420	D	4.0
~~1,2-Dichlorobenzene~~	~~10~~	~~D~~	~~4.0~~
~~1,3-Dichlorobenzene~~	~~4.0~~	~~U~~	~~4.0~~
~~1,4-Dichlorobenzene~~	~~12~~	~~D~~	~~4.0~~

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	92	75 - 120
Dibromofluoromethane	113	75 - 121
Toluene-d8 (Surr)	98	75 - 120

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW02-1108**

Lab Sample ID: 680-42600-6
Client Matrix: Water

Date Sampled: 11/24/2008 1145
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 200
Date Analyzed: 12/01/2008 2006
Date Prepared: 12/01/2008 2006

Analysis Batch: 680-124153

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0049.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	16000		200
Chlorobenzene	2500		200
1,2-Dichlorobenzene	200	U	200
1,3-Dichlorobenzene	200	U	200
1,4-Dichlorobenzene	200	U	200

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	90	75 - 120
Dibromofluoromethane	112	75 - 121
Toluene-d8 (Surr)	92	75 - 120

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW05-1108**

Lab Sample ID: 680-42600-8
Client Matrix: Water

Date Sampled: 11/24/2008 1425
Date Received: 11/25/2008 0854

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 10
Date Analyzed: 12/02/2008 1343
Date Prepared: 12/02/2008 1343

Analysis Batch: 680-124211

Instrument ID: GC/MS Volatiles - P
Lab File ID: p0071.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result (ug/L)	Qualifier	RL
Benzene	~~15~~ 0.0 ND	"U"	~~10~~ 15
Chlorobenzene	1400		10
1,2-Dichlorobenzene	10	U	10
1,3-Dichlorobenzene	10	U	10
1,4-Dichlorobenzene	10	U	10

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	92	75 - 120
Dibromofluoromethane	111	75 - 121
Toluene-d8 (Surr)	98	75 - 120

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW03-1108**

Lab Sample ID: 680-42600-4
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1047
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12028.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	49		0.35
Ethylene	0.33	U	0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1047
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12028.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	33000		0.19

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW02-1108**

Lab Sample ID: 680-42600-6
Client Matrix: Water

Date Sampled: 11/24/2008 1145
Date Received: 11/25/2008 0854

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1059
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12029.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	6.6		0.35
Ethylene	1.0		0.33

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1059
Date Prepared: N/A

Analysis Batch: 680-124522

Instrument ID: GC Volatiles - U TCD
Lab File ID: U12029.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	3300		0.19

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW05-1108**

Lab Sample ID: 680-42600-8
Client Matrix: Water

Date Sampled: 11/24/2008 1425
Date Received: 11/25/2008 0854

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1112
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12030.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	8.6		0.35
Ethylene	0.33	U	0.33
Methane	52		0.19

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW03-1108**

Lab Sample ID: 680-42600-4
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

6010B Metals (ICP)-Total Recoverable

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 12/04/2008 2235
Date Prepared: 12/03/2008 1707

Analysis Batch: 680-124550
Prep Batch: 680-124341

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	RL
Iron	15		0.050
Manganese	0.71		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW03-F-1108**

Lab Sample ID: 680-42600-5
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

6010B Metals (ICP)-Dissolved

Method: 6010B
Preparation: 3005A
Dilution: 1.0
Date Analyzed: 12/04/2008 2240
Date Prepared: 12/03/2008 1707

Analysis Batch: 680-124550
Prep Batch: 680-124341

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	15		0.050
Manganese, Dissolved	0.76		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW02-1108**

Lab Sample ID:	680-42600-6	Date Sampled:	11/24/2008 1145
Client Matrix:	Water	Date Received:	11/25/2008 0854

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2245		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	1.8		0.050
Manganese	0.34		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **BSAMW02-F-1108**

Lab Sample ID:	680-42600-7	Date Sampled:	11/24/2008 1145
Client Matrix:	Water	Date Received:	11/25/2008 0854

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2250		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	1.7		0.050
Manganese, Dissolved	0.34		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW05-1108**

Lab Sample ID:	680-42600-8	Date Sampled:	11/24/2008 1425
Client Matrix:	Water	Date Received:	11/25/2008 0854

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2255		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron	76		0.050
Manganese	2.5		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Client Sample ID: **CPAMW05-F-1108**

Lab Sample ID:	680-42600-9	Date Sampled:	11/24/2008 1425
Client Matrix:	Water	Date Received:	11/25/2008 0854

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124550	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124341	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/04/2008 2300		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1707			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	78		0.050
Manganese, Dissolved	2.6		0.010

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

General Chemistry

Client Sample ID: **CPAMW03-1108**

Lab Sample ID: 680-42600-4
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	390		mg/L		5.0	5.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1302			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124259		Date Analyzed	11/25/2008 1603			
Sulfate	5.0	U	mg/L		5.0	1.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1345			
Total Organic Carbon	7.9		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1723			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	690		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1007			
Carbon Dioxide, Free	56		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1007			

Client Sample ID: **CPAMW03-F-1108**

Lab Sample ID: 680-42600-5
Client Matrix: Water

Date Sampled: 11/24/2008 1000
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	6.8		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

General Chemistry

Client Sample ID: **BSAMW02-1108**

Lab Sample ID: 680-42600-6
Client Matrix: Water

Date Sampled: 11/24/2008 1145
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	94		mg/L		1.0	1.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1251			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124259		Date Analyzed	11/25/2008 1603			
Sulfate	110		mg/L		25	5.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1413			
Total Organic Carbon	4.8		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1738			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	660		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1016			
Carbon Dioxide, Free	29		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1016			

Client Sample ID: **BSAMW02-F-1108**

Lab Sample ID: 680-42600-7
Client Matrix: Water

Date Sampled: 11/24/2008 1145
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	3.7		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

General Chemistry

Client Sample ID: **CPAMW05-1108**

Lab Sample ID: 680-42600-8
Client Matrix: Water

Date Sampled: 11/24/2008 1425
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	330		mg/L		5.0	5.0	325.2
	Anly Batch: 680-123922		Date Analyzed	11/26/2008 1342			
Nitrate as N	0.050	U	mg/L		0.050	1.0	353.2
	Anly Batch: 680-124259		Date Analyzed	11/25/2008 1603			
Sulfate	1500		mg/L		250	50	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1430			
Total Organic Carbon	3.6		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1752			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	340		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1024			
Carbon Dioxide, Free	110		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1024			

Client Sample ID: **CPAMW05-F-1108**

Lab Sample ID: 680-42600-9
Client Matrix: Water

Date Sampled: 11/24/2008 1425
Date Received: 11/25/2008 0854

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	3.1		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

DATA REPORTING QUALIFIERS

Client: URS Corporation

Job Number: 680-42600-1
Sdg Number: KPS047

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	E	Result exceeded 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 may be flagged with a D.
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
Metals		
	U	Indicates the analyte was analyzed for but not detected.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.

Appendix E
Microbial Insights Data Package

2340 Stock Creek Blvd.
Rockford TN 37853-3044
Phone: (865) 573-8188
Fax: (865) 573-8133
Email: info@microbe.com

Lipid Analysis Report

Client: Thomas Adams
URS Corp
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

Phone: 314.429.0100

Fax: 314.429.0462

MI Identifier: 017FL **Date Rec:** 12/05/2008 **Report Date:** 02/18/2009

Client Project #: 21562048.00004 **Client Project Name:** WGK Longterm Monitoring

Purchase Order #:

Analysis Requested: PLFA

Comments:

Reported By:

Reviewed By:

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MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

Sample Information

Sample Name:	**BSAMW01-1208**	**BSAMW02-1208**	**BSAMW02-1208 - 13C Benzene**	**BSAMW03-1208**	**BSAMW04-1208**
Sample Date:	12/04/2008	12/04/2008	12/04/2008	12/04/2008	12/04/2008
Sample Matrix:	beads	beads	beads	beads	beads

Biomass Concentrations

Total Biomass (cells/bead)	**1.05E+05**	**1.09E+05**	**1.3E+05**	**2.43E+04**	**7.06E+04**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**5.51**	**5.22**	**1.87**	**0.00**	**0.00**
Proteobacteria (Monos)	**67.32**	**67.01**	**76.86**	**63.91**	**74.61**
Anaerobic metal reducers (BrMonos)	**0.54**	**3.31**	**0.56**	**0.00**	**0.00**
SRB/Actinomycetes (MidBrSats)	**0.62**	**2.76**	**0.85**	**2.95**	**0.61**
General (Nsats)	**24.22**	**20.38**	**19.31**	**31.42**	**21.27**
Eukaryotes (polyenoics)	**1.76**	**1.35**	**0.54**	**1.70**	**3.50**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.28**	**0.13**	**0.05**	**0.46**	**0.29**
Decreased Permeability	**0.21**	**0.11**	**0.04**	**0.12**	**0.09**

Legend:
NA = Not Analyzed NS = Not Sampled

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

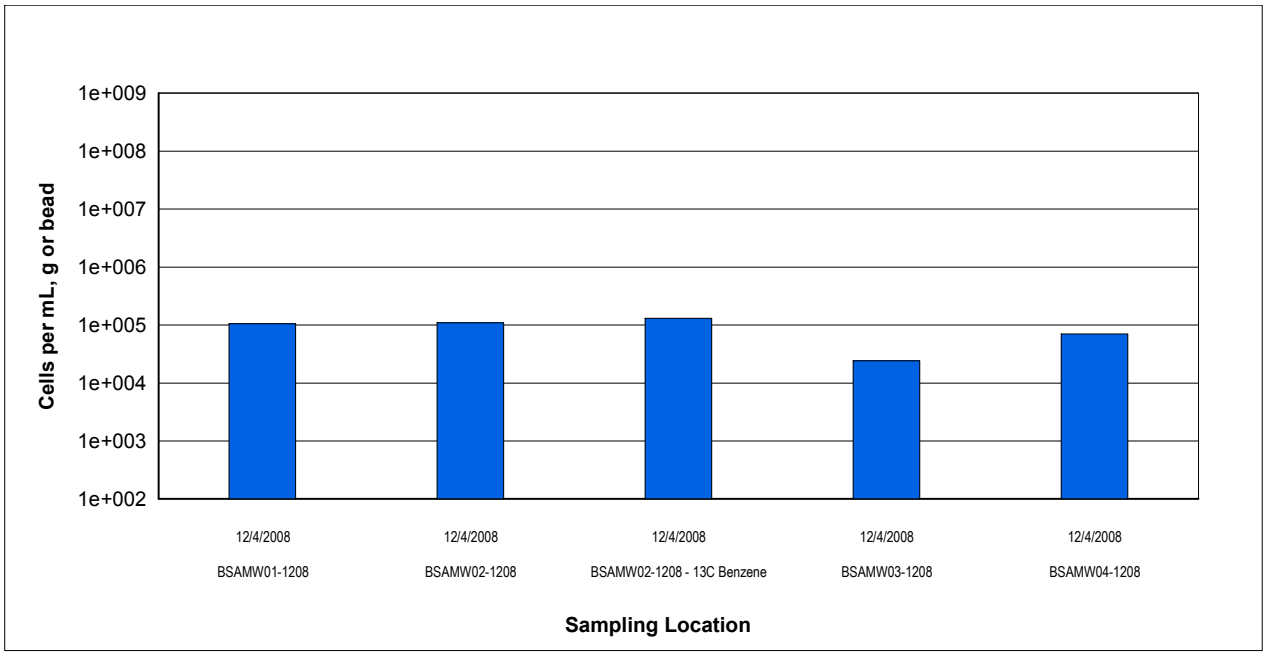

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

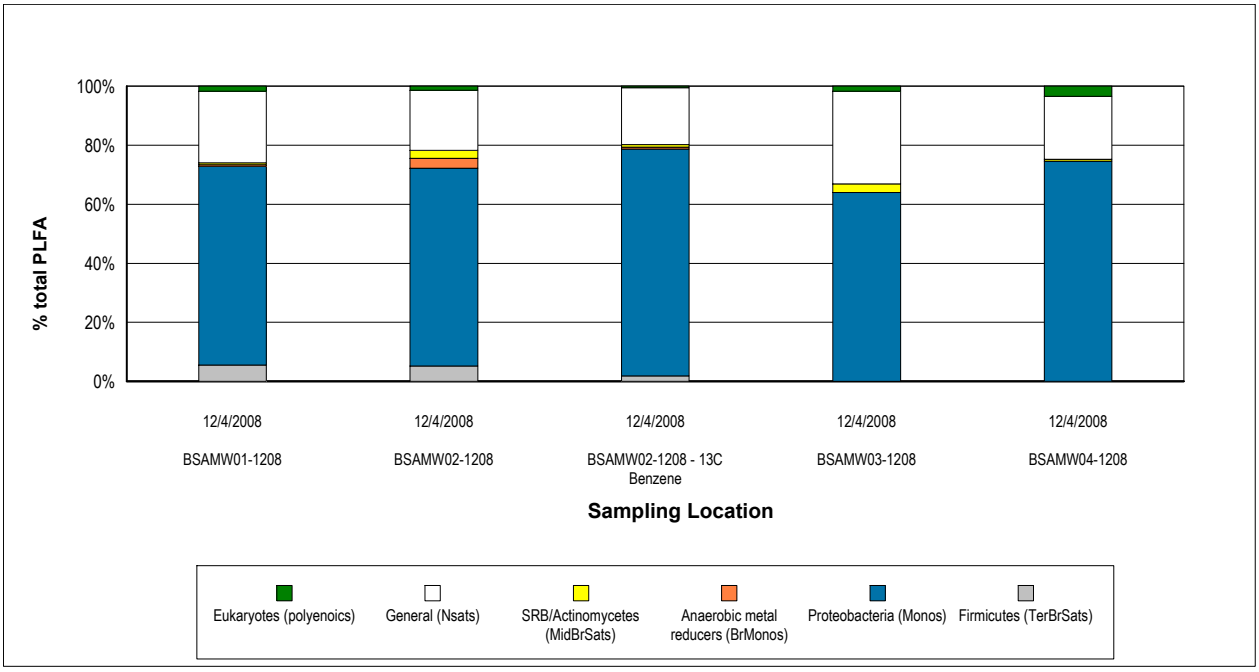

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

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PLFA

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

Sample Information

Sample Name:	**CPAMW05-1208**	**CPAMW01-1208**	**CPAMW02-1208**	**CPAMW03-1208**	**CPAMW03-1208 - 13C Chlorobenzene**
Sample Date:	12/04/2008	12/04/2008	12/04/2008	12/04/2008	12/04/2008
Sample Matrix:	beads	beads	beads	beads	beads

Biomass Concentrations

Total Biomass (cells/bead)	**8.74E+04**	**2.15E+05**	**4.78E+04**	**5.35E+04**	**3.15E+05**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**3.53**	**1.29**	**2.87**	**3.52**	**4.26**
Proteobacteria (Monos)	**72.92**	**75.50**	**73.67**	**72.00**	**39.91**
Anaerobic metal reducers (BrMonos)	**0.00**	**0.67**	**0.00**	**0.00**	**0.00**
SRB/Actinomycetes (MidBrSats)	**1.24**	**0.62**	**0.00**	**0.00**	**0.00**
General (Nsats)	**19.61**	**19.15**	**21.97**	**22.11**	**18.14**
Eukaryotes (polyenoics)	**2.68**	**2.79**	**1.50**	**2.37**	**37.69**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.44**	**0.07**	**0.27**	**0.35**	**0.32**
Decreased Permeability	**0.17**	**0.11**	**0.07**	**0.19**	**0.13**

Legend:
NA = Not Analyzed NS = Not Sampled

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

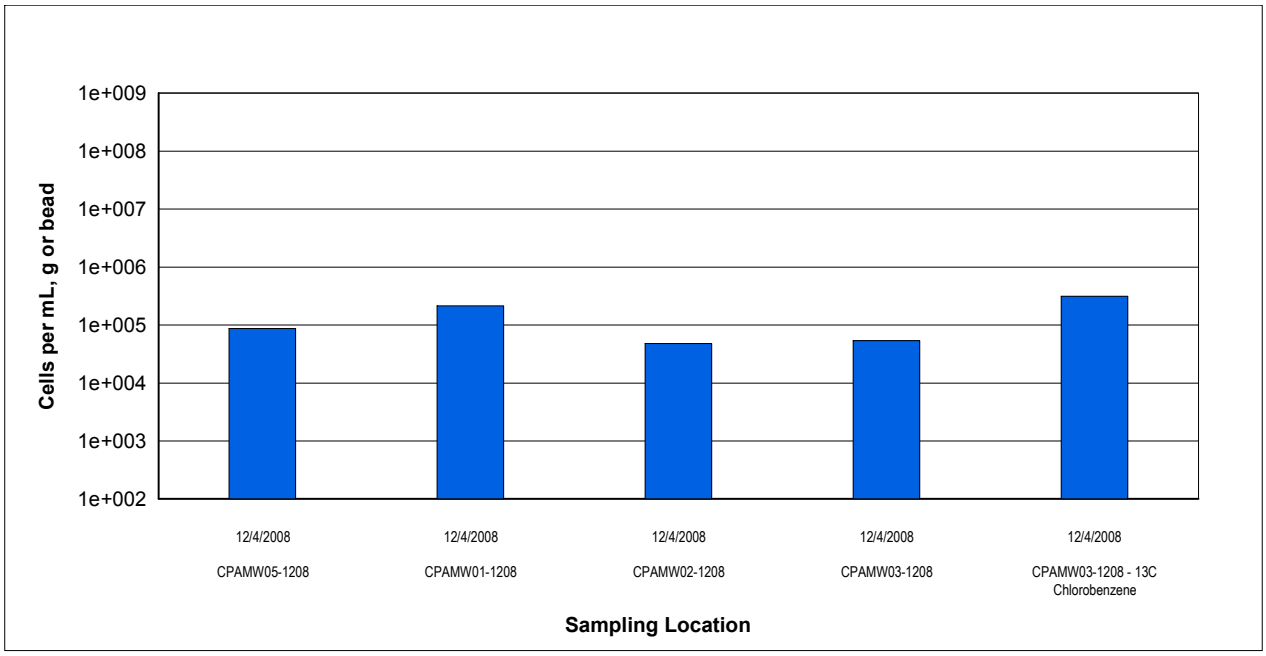

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

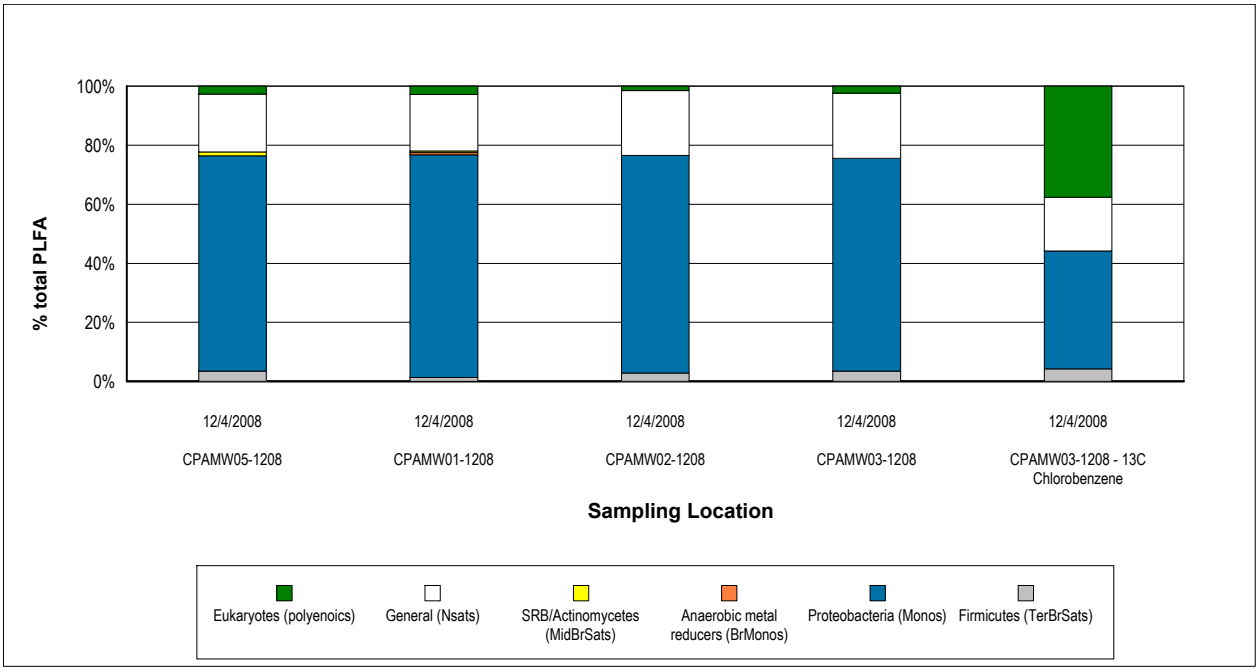

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

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PLFA

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

Sample Information

Sample Name:	**CPAMW041-1208**
Sample Date:	12/04/2008
Sample Matrix:	beads

Biomass Concentrations

Total Biomass (cells/bead)	**2.28E+05**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**0.47**
Proteobacteria (Monos)	**80.87**
Anaerobic metal reducers (BrMonos)	**0.00**
SRB/Actinomycetes (MidBrSats)	**0.69**
General (Nsats)	**17.36**
Eukaryotes (polyenoics)	**0.60**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.27**
Decreased Permeability	**0.05**

Legend:
NA = Not Analyzed NS = Not Sampled

Client: **URS Corp**
Project: WGK Longterm Monitoring

MI Project Number: **017FL**
Date Received: 12/05/2008

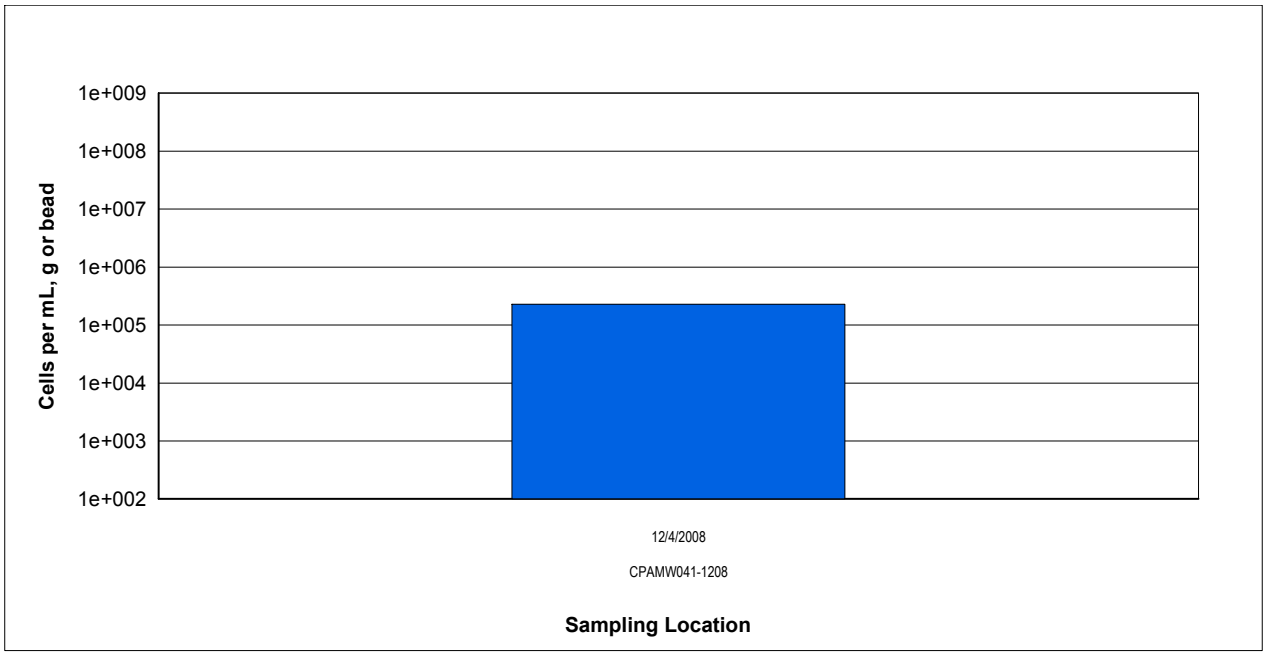

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

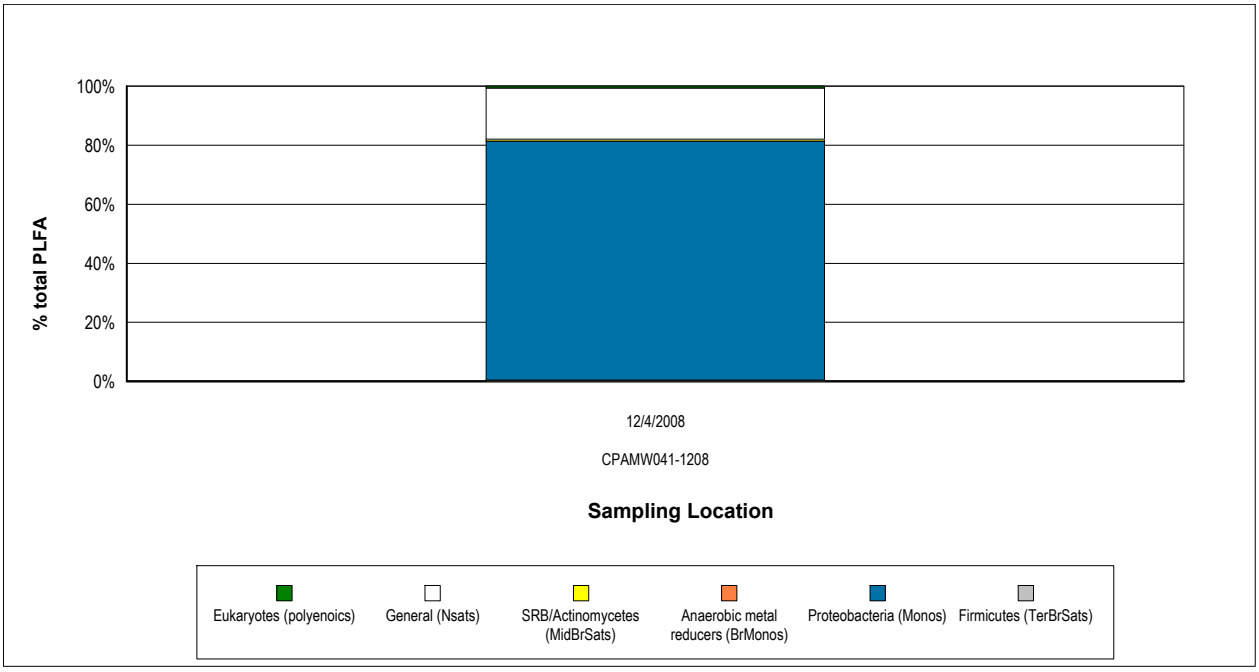

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

REPORT TO:
Reports will be provided to the contact(s) listed below. Parties other than the contact(s) listed below will require prior approval.

Name: Thomas Adams
Company: URS Corporation
Address: 1001 Highlands Plaza Dr. West, Ste 300
St. Louis, MO 63110

email: thomas_adams@urscorp.com
Phone: (314) 429-0100
Fax: (314) 429-0462

Project Manager: Thomas Adams
Project Name: WGK LongTerm Monitoring
Project No.: 21562048.00004

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For Invoices **paid by a third party** it is imperative that contact information & corresponding reference No. be provided.

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Company:
Address:

email:
Phone: ( )
Fax: ( )

Purchase Order No.
Subcontract No.

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email: info@microbe.com
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Please Check One:
☐ More samples to follow
☐ No Additional Samples

Saturday Delivery
Please see sampling protocol for instructions

Report Type: ☒ Standard (default) ☐ Comprehensive (15% surcharge) ☐ Historical (30% surcharge)

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Sample Information / **CENSUS:** Please select the target organism/gene

MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	VFA	M/E/E	DGGE+3ID	DGGE+5ID	qDHC (Dehalococcoides)	DHC Functional genes	qDHB (Dehalobacter)	qDSM (Desulfuromonas)	qDSB (Desulfitobacterium)	qEBAC (Total)	qDSR (SRBs only)	qSRB/IRB	qMGN (methanogens)	qMOB (methanotrophs)	qDNF (Denitrifying)	qAOB (ammonia oxidizing)	qPM1 (MTBE aerobic)	qTOD (Intial PAHs aerobic)	qCAT (Intermediate PAHs aerobic)	qBSS (Toluen/Xylene Anaerobic)	qNAH (Napthalene aerobic)	add. qPCR:	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other: Benzene SIP	Other: Chlorobenzene SIP	Other:	Other:
017FL 1	BSAMW01-1208	12/4/08	1545		X																													
2, 3	BSAMW02-1208		1450		X																										X			
4	BSAMW03-1208		1425		X																													
5	BSAMW04-1208		1325		X																													
6	~~BSAMW05-1208~~ CPAMW05-1208 MC		~~1350~~ 1440 MC		X																													
7	CPAMW01-1208		1520		X																													
8	CPAMW02-1208		1535		X																													
9, 10	CPAMW03-1208		1505		X																											X		
11	CPAMW04-1208		1340		X																													
	~~CPAMW05-1208~~		~~1440~~		X			MC																										

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Received by: [signature] Date 12/5/08

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Rockford TN 37853-3044
Phone: (865) 573-8188
Fax: (865) 573-8133
Email: info@microbe.com

Lipid Analysis Report

Client: Thomas Adams
URS Corp
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

Phone: 314.429.0100

Fax: 314.429.0462

MI Identifier: 048FL **Date Rec:** 12/12/2008 **Report Date:** 01/09/2009

Client Project #: 21562048.00004 **Client Project Name:** Solutia WGK Long Term Monitoring Prog

Purchase Order #:

Analysis Requested: PLFA

Comments:

Reported By:

Reviewed By:

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PLFA

Client: **URS Corp**
Project: Solutia WGK Long Term Monitoring Program

MI Project Number: **048FL**
Date Received: 12/12/2008

Sample Information

Sample Name:	**BSAMW05-1208**
Sample Date:	12/10/2008
Sample Matrix:	beads

Biomass Concentrations

Total Biomass (cells/bead)	**1.33E+05**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**1.60**
Proteobacteria (Monos)	**79.30**
Anaerobic metal reducers (BrMonos)	**1.14**
SRB/Actinomycetes (MidBrSats)	**1.30**
General (Nsats)	**14.30**
Eukaryotes (polyenoics)	**2.36**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.13**
Decreased Permeability	**0.11**

Legend:
NA = Not Analyzed NS = Not Sampled

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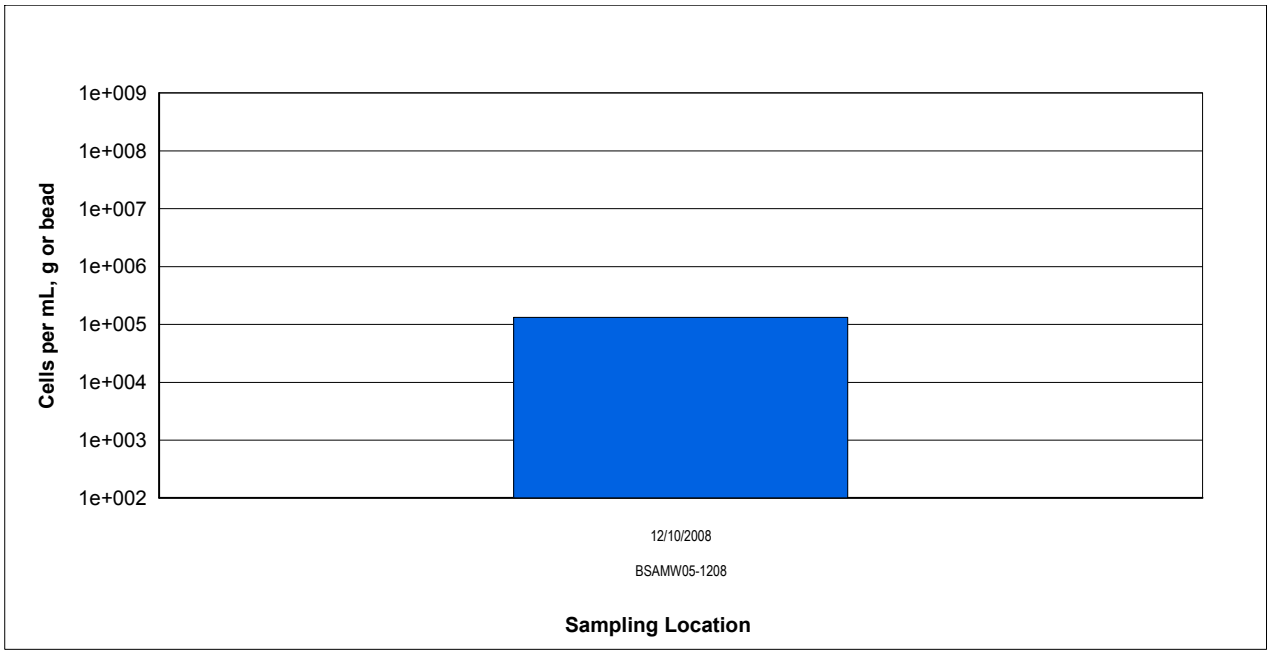
PLFA

Client: **URS Corp**
Project: Solutia WGK Long Term Monitoring Program

MI Project Number: **048FL**
Date Received: 12/12/2008



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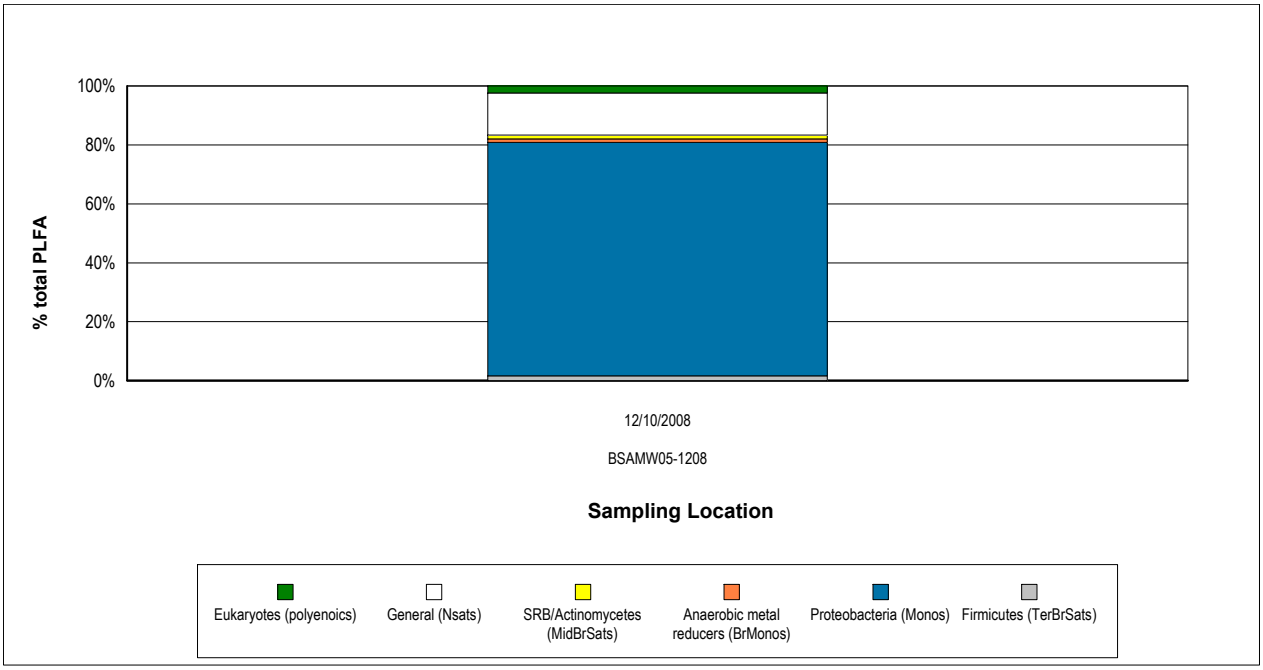

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

REPORT TO:
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Name: Jeff Adams
Company: URS Corp
Address: 1001 Highlands Plaza Drive West
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St. Louis MO 63110
email: thomas.adams@urscorp.com
Phone: (314) 429-0100
Fax: (314) 429 0462

Project Manager: Jeff Adams
Project Name: Solutia WGK Long Term Monitoring Program
Project No.: 21562048.00004

INVOICE TO:
For Invoices **paid by a third party** it is imperative that contact information & corresponding reference No. be provided.

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Company:
Address: SAME
email:
Phone: ( )
Fax: ( )

Purchase Order No.
Subcontract No.

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Please Check One:
☐ More samples to follow
☒ No Additional Samples

Saturday Delivery
Please see sampling protocol for instructions

Report Type: ☐ Standard (default) ☐ Comprehensive (15% surcharge) ☐ Historical (30% surcharge)

Please contact us prior to submitting samples regarding questions about the analyses you are requesting at (865) 573-8188 (8:00 am to 4:00 pm M-F). After these hours please call (865) 300-8053.

Sample Information											CENSUS: Please select the target organism/gene																								
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	VFA	M/E/E	DGGE+3ID	DGGE+5ID		qDHC (Dehalococcoides)	DHC Functional genes	qDHB (Dehalobacter)	qDSM (Desulfuromonas)	qDSB (Desulfitobacterium)	qEBAC (Total)	qDSR (SRBs only)	qSRB/IRB	qMGN (methanogens)	qMOB (methanotrophs)	qDNF (Dentrifying)	qAOB (ammonia oxidizing)	qPM1 (MTBE aerobic)	qTOD (intial PAHs aerobic)	qCAT (intermediate PAHs aerobic)	qBSS (Toluen/Xylene Anaerobic)	qNAH (Napthalene aerobic)	add. qPCR:	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other:	Other:	Other:	Other:
048FL 1	BSAMW05-1208	12/10/08	17:00	W	X																														

Relinquished by: [signature] for URS Date: 12/11/08
Received by: [signature] Date 12/12/08

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SITE LOGIC Report

Stable Isotope Probing (SIP) Study

Contact: Thomas Adams
Address: URS Corp – St. Louis MO
1001 Highlands Plaza Drive West
Suite 300
St. Louis, MO 63110

Phone: 314.429.0100

Email: thomas_adams@urscorp.com

MI Identifier:	017FL

Report Date: 2/18/09

Project: WGK Longterm Monitoring

Comments:

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Executive Summary

Bio-Trap® samplers baited with ^{13}C labeled benzene (BSAMW02) or ^{13}C chlorobenzene (CPAMW03) were deployed in monitoring wells for 30 days and then recovered for analysis. A complete summary of the results is provided in Table 1.

- Moderate levels (~10^5 cells/bead) of total biomass were detected in both the benzene (BSAMW02) and chlorobenzene (CPAMW03) baited Bio-Trap samplers.
- Quantification of the ^{13}C enriched biomass demonstrated a high level of utilization of benzene by the indigenous microbes in well BSAMW02.
- No incorporation of the ^{13}C into the biomass was seen in the chlorobenzene baited Bio-Trap in well CPAMW03.
- Quantification of ^{13}C dissolved inorganic carbon (DIC) demonstrated high levels of benzene mineralization in well BSAMW02. There was a low level of chlorobenzene mineralization in CPAMW03.
- Comparison of pre- and post-deployment ^{13}C labeled benzene in well BSAMW02 showed essentially no loss of the ^{13}C labeled benzene. There was a 60% loss of the ^{13}C labeled chlorobenzene in CPAMW03.

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Overview of Approach

Stable Isotope Probing (SIP)

Stable isotope probing (SIP) is an innovative method to track the environmental fate of a "labeled" contaminant of concern to unambiguously demonstrate biodegradation. Two stable carbon isotopes exist in nature – carbon 12 (^{12}C) which accounts for 99% of carbon and carbon 13 (^{13}C) which is considerably less abundant (~1%). With the SIP method, the Bio-Trap® sampler is baited with a specially synthesized form of the contaminant containing ^{13}C labeled carbon. Since ^{13}C is rare, the labeled compound can be readily differentiated from the contaminants present at the site. Following deployment, the Bio-Trap® is recovered and three approaches are used to conclusively demonstrate biodegradation of the contaminant of concern.

- The loss of the labeled compound provides an estimate of the degradation rate (% loss of ^{13}C).
- Quantification of ^{13}C enriched phospholipid fatty acids (PLFA) indicates incorporation into microbial biomass.
- Quantification of ^{13}C enriched dissolved inorganic carbon (DIC) indicates contaminant mineralization.

Phospholipid Fatty Acids (PLFA): PLFA are a primary component of the membrane of all living cells including bacteria. PLFA decomposes rapidly upon cell death (1, 2), so the total amount of PLFA present in a sample is indicative of the viable biomass. When combined with stable isotope probing (SIP), incorporation of ^{13}C into PLFA is a conclusive indicator of biodegradation.

Some organisms produce "signature" types of PLFA allowing quantification of important microbial functional groups (e.g. iron reducers, sulfate reducers, or fermenters). The relative proportions of the groups of PLFA provide a "fingerprint" of the microbial community. In addition, *Proteobacteria* modify specific PLFA during periods of slow growth or in response to environmental stress providing an index of their health and metabolic activity.

CENSUS: CENSUS is based on a technique called quantitative polymerase chain reaction (qPCR) whereby many copies of a specific gene are generated. As each gene copy is made, a fluorescent marker is released, measured, and used to quantify the number of target genes present in a sample. The choice of target gene depends on the contaminant of concern. For example, at MTBE impacted sites, CENSUS quantification of *Methylibium petroleiphilum* PM1 (qPM1), a known MTBE-utilizing bacterium, would be used as an index of the MTBE-degrading community.

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Results

Table 1. Summary of the results obtained from MICRO, GEO, and COC samplers within Bio-Trap® Units. Interpretation guidelines and definitions are found later in the document.

Sample Name	BSAMW02-1208-13C Benzene	CPAMW03-1208-13C Chlorobenzene
^{13}C Contaminant Loss		
Benzene Pre-deployment (mg/bd)	1.37	----
Benzene Post-deployment (mg/bd)	1.38	----
Chlorobenzene Pre-deployment (mg/bd)	----	0.49
Chlorobenzene Post-deployment (mg/bd)	----	0.20
% Loss	-1%	60%
First Order Rate Constant (1/days)	0.000	0.030
Half Life (days)	-4080	23
Biomass & ^{13}C Incorporation		
Total Biomass (Cells/bd)	1.30E+05	3.15E+05
^{13}C Enriched Biomass (Cells/bd)	1.27E+04	0.0.E+00
% ^{13}C Incorporation	9.81%	0.00%
Average PLFA Del (‰)	8204	----
Maximum PLFA Del (‰)	11518	----
^{13}C Mineralization		
DIC Del (‰)	12672	44
% 13C	13.26%	1.15%
Community Structure (% total PLFA)		
Firmicutes (TerBrSats)	1.9	4.3
Proteobacteria (Monos)	76.9	39.9
Anaerobic metal reducers (BrMonos)	0.6	0.0
Actinomycetes (MidBrSats)	0.9	0.0
General (Nsats)	19.3	18.1
Eukaryotes (Polyenoics)	0.5	37.7
Physiological Status (Proteobacteria only)		
Slowed Growth	0.05	0.32
Decreased Permeability	0.04	0.13

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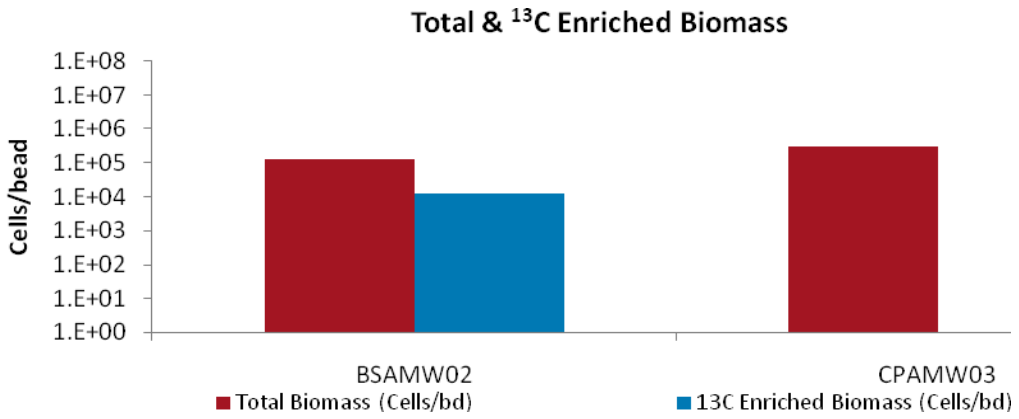

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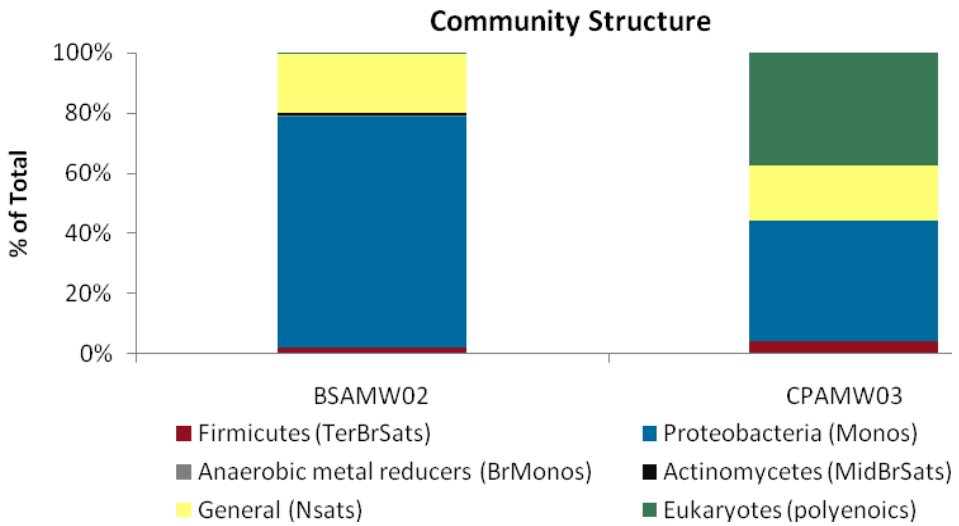

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

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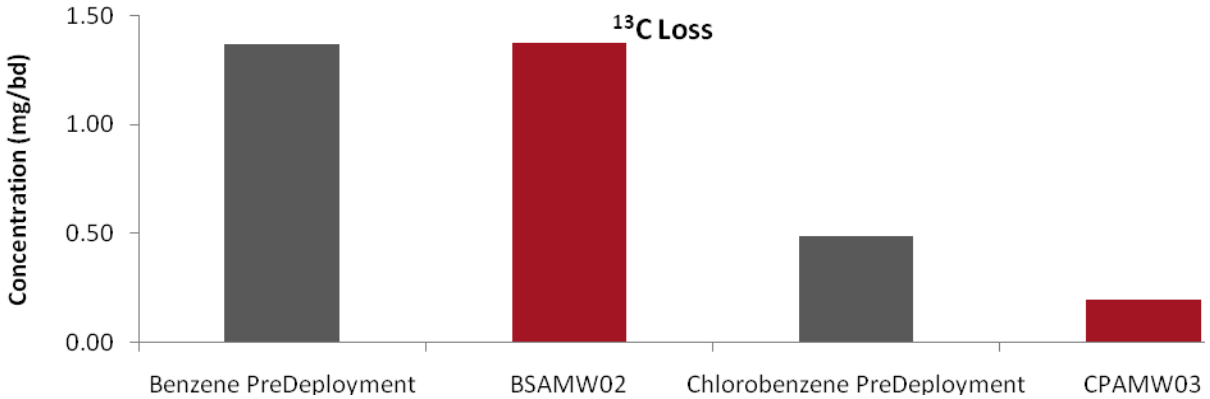

Figure 3. Comparison of Pre-deployment concentrations loaded on Bio-Sep beads to the concentrations detected after incubation.

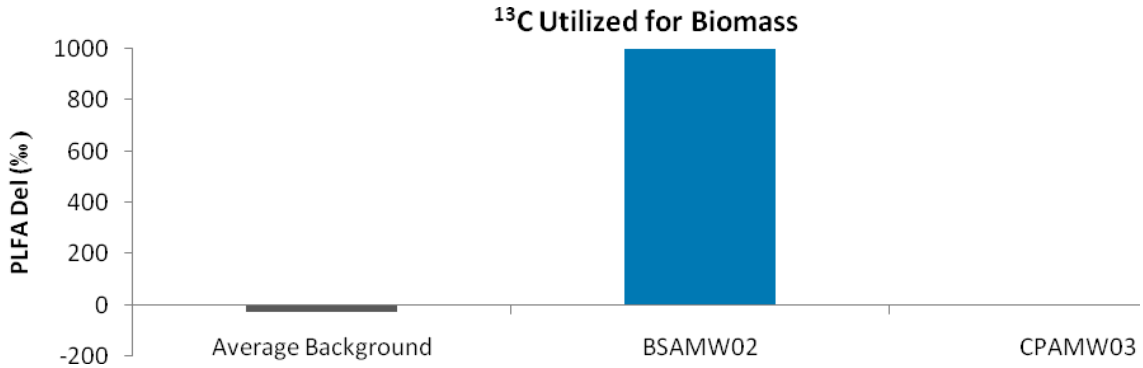

Figure 4. Comparison of the average Del value obtained from PLFA biomarkers from each Bio-Trap® unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

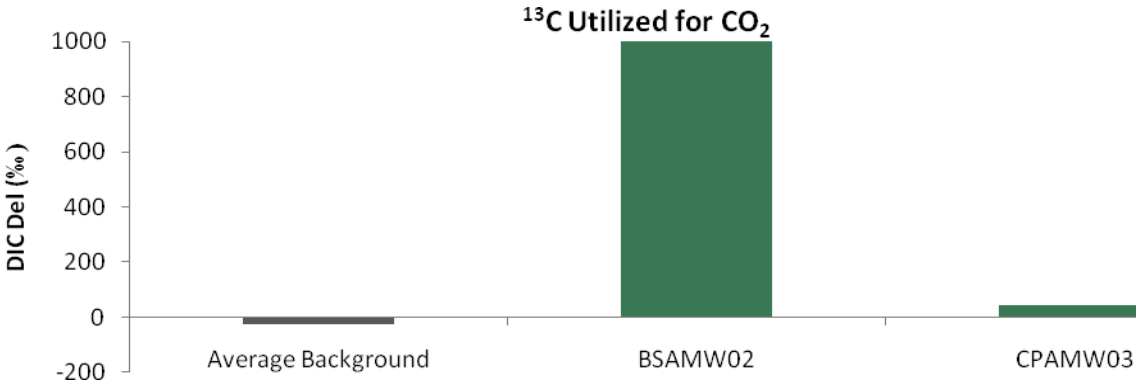

Figure 5. Comparison of the Del value obtained from DIC from each Bio-Trap® unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

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Interpretation

Interpretation of the results of the SIP Bio-Trap® study must be performed with due consideration of site conditions, site activities, and the desired treatment mechanism. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Contaminant Concentration: Bio-Traps® are baited with a ^{13}C labeled contaminant of concern and a pre-deployment concentration is determined prior to shipping. Following deployment, Bio-Traps® are recovered for analysis including measurement of the concentration of the ^{13}C labeled contaminant remaining. Pre- and post-deployment concentrations are used to calculate percent loss, to estimate the first order degradation rate constant (k), and to estimate the contaminant half life (Results Summary Table). For a description of how the first order rate constant is calculated, please see the glossary at the end of the report. The first order rate constant can be used to compare different wells or treatments depending on the design of the study. A higher value is indicative of a greater biodegradation rate.

Alternatively, the contaminant half life can be used to make the same types of comparisons between wells and treatments. By definition, half life is the amount of time required for the contaminant concentration to equal half of the initial concentration (see glossary for calculation).

Biomass Concentrations: PLFA analysis is one of the most reliable and accurate methods available for the determination of viable (live) biomass. Phospholipids break down rapidly upon cell death, so biomass calculations based on PLFA content do not include "fossil" lipids from dead cells. Total biomass (cells/bead) is calculated from total PLFA using a conversion factor of 20,000 cells/pmole of PLFA. When making comparisons between wells, treatments, or over time, differences of one order of magnitude or more are considered significant.

Total Biomass		
Low	**Moderate**	**High**
10^3 to 10^4 cells	10^5 to 10^6 cells	10^7 to 10^8 cells

For SIP studies, the ^{13}C enriched PLFA is also determined to conclusively demonstrate contaminant biodegradation and quantify incorporation into biomass as a result of the ^{13}C being used for cellular growth. The % ^{13}C incorporation (^{13}C enriched biomass/total biomass) is also provided in the data summary table, but the value must be interpreted carefully especially when comparing wells or treatments. Typically, biodegradation of a contaminant of concern is performed by a small subset of the total microbial community. For Bio-Traps® with large total biomass, the % ^{13}C incorporation value could be low despite significant ^{13}C labeled biomass and loss of the compound. The % ^{13}C incorporation should be viewed in light of total biomass, percent loss, and dissolved inorganic carbon (DIC) results.

^{13}C enrichment data is often reported as a del value. The del value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand, denoted ‰).

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R_{std} is the naturally occurring isotopic ratio and is approximately 0.011180 (roughly 1% of naturally occurring carbon is ^{13}C). The isotopic ratio, R_x, of PLFA is typically less than the R_{std} under natural conditions, resulting in a del value between -20 and -30‰. For a SIP Bio-Trap® study, biodegradation and incorporation of the ^{13}C labeled compound into PLFA results in a larger $^{13}C/^{12}C$ ratio (R_x) and thus del values greater than under natural conditions. Typical PLFA del values are provided below.

PLFA Del (‰)		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000

Dissolved Inorganic Carbon (DIC): Often, bacteria can utilize the ^{13}C labeled compound as both a carbon and energy source. The ^{13}C portion used as a carbon source for growth can be incorporated into PLFA as discussed above, while the ^{13}C used for energy is oxidized to $^{13}CO_2$ (mineralized).

^{13}C enriched CO_2 data is often reported as a del value as described above for PLFA. Under natural conditions, the R_x of CO_2 is approximately the same as R_{std} (0.01118 or about 1.1% ^{13}C). For an SIP Bio-Trap® study, mineralization of the ^{13}C labeled contaminant of concern would lead to a greater value of R_x (increased $^{13}CO_2$ production) and thus a positive del value. As with PLFA, del values between 0 and 100‰ are considered low, values between 100 and 1,000‰ are considered moderate, and values greater than 1,000‰ are considered high. Thus DIC %^{13}C are considered low if the value is less than 1.23%, moderate if between 1.23 and 2.24%, and high if greater than 2.24%.

Dissolved Inorganic Carbon (DIC) Del and % ^{13}C		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000
1.11 to 1.23%	1.23 to 2.24 %	>2.24 %

CENSUS: CENSUS analysis provides quantification of an organism or functional genes responsible for biodegradation of the contaminant of interest. CENSUS results can be compared between wells, between treatments, or over time to evaluate degrader populations, depending upon the design of the study. CENSUS analysis is often included in SIP studies to provide an additional line of evidence supporting biodegradation as a treatment mechanism and can be used for long-term monitoring of a degrader population following completion of the SIP study.

Community Structure (% total PLFA): Community structure data is presented as a percentage of PLFA structural groups normalized to the total PLFA biomass. The relative proportions of the PLFA structural groups provide a "fingerprint" of the types of microbial groups (e.g. anaerobes, sulfate reducers, etc.) present and therefore offer insight into the dominant metabolic processes occurring at the sample location. Thorough interpretation of the PLFA structural groups depends in part on an understanding of site conditions and the desired microbial biodegradation pathways. For example, an increase in mid chain branched saturated PLFA (MidBrSats), indicative of sulfate reducing bacteria (SRB) and *Actinomycetes*, may be desirable at a site where anaerobic BTEX biodegradation is the treatment mechanism, but would not be desirable for a corrective action promoting aerobic BTEX or MTBE biodegradation. The following table provides a brief summary of each PLFA structural group and its potential relevance to bioremediation.

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Table 2. Description of PLFA structural groups.

PLFA Structural Group	General classification	Potential Relevance to Bioremediation Studies
Monoenoic (Monos)	Abundant in Proteobacteria (Gram negative bacteria), typically fast growing, utilize many carbon sources, and adapt quickly to a variety of environments.	Proteobacteria is one of the largest groups of bacteria and represents a wide variety of both aerobes and anaerobes. The majority of Hydrocarbon utilizing bacteria fall within the Proteobacteria
Terminally Branched Saturated (TerBrSats)	Characteristic of Firmicutes (Low G+C Gram-positive bacteria), and also found in Bacteriodes, and some Gram-negative bacteria (especially anaerobes).	Firmicutes are indicative of presence of anaerobic fermenting bacteria (mainly *Clostridia/Bacteriodes*-like), which produce the H_2 necessary for reductive dechlorination
Branched Monoenoic (BrMonos)	Found in the cell membranes of micro-aerophiles and anaerobes, such as sulfate- or iron-reducing bacteria	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Mid-Chain Branched Saturated (MidBrSats)	Common in sulfate reducing bacteria and also Actinobacteria (High G+C Gram-positive bacteria).	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Normal Saturated (Nsats)	Found in all organisms.	High proportions often indicate less diverse populations.
Polyenoic	Found in eukaryotes such as fungi, protozoa, algae, higher plants, and animals.	Eukaryotic scavengers will often rise up and prey on contaminant utilizing bacteria

Physiological Status (*Proteobacteria*): Some *Proteobacteria* modify specific PLFA as a strategy to adapt to stressful environmental conditions (3, 4). For example, *cis* monounsaturated fatty acids may be modified to cyclopropyl fatty acids during periods of slowed growth or modified to *trans* monounsaturated fatty acids to decrease membrane permeability in response to environmental stress. The ratio of product to substrate fatty acid thus provides an index of their health and metabolic activity. In general, status ratios greater than 0.25 indicate a response to unfavorable environmental conditions.

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Glossary

Del: A Del value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand denoted ‰).

$$Del = (R_x - R_{std})/R_{std} \times 1000$$

First Order Rate Constant: The first order rate is expression is $C=C_o e^{-kt}$ where C is the post-deployment concentration (mg/bead), C_o is the pre-deployment concentration (mg/bead), k is the first order rate constant (1/days), and t is the deployment time (days). Upon rearrangement and using pre-and post-deployment concentrations, $k=-\ln(C/C_o)/t$.

Half Life: Half life is the amount of time required for the contaminant concentration to equal half of the initial concentration and is expressed as $C=C_o/2$. Substituting into the rate expression and solving for half life ($t_{1/2}$), $t_{1/2} = \ln(0.5)/-k$. As opposed to the rate constant, a higher half life ($t_{1/2}$) indicates a lower degradation rate.

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Solutions for a better life.

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March 13, 2009

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

VIA FEDEX

Re: PCB Groundwater Quality Assessment Program
4th Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the PCB Groundwater Quality Assessment Program 4th Quarter 2008 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL. Included is an updated trend analysis, adding data for the 3rd and 4th quarters of 2008 to the comparable analysis submitted October 31, 2008, for data through the 2nd quarter of 2008.

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

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4th Quarter 2008 Data Report
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4TH 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

March 2009

URS Corporation
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(314) 429-0100
Project # 21562047.00003

1.0 INTRODUCTION 1

2.0 FIELD PROCEDURES 2

3.0 LABORATORY PROCEDURES 3

4.0 QUALITY ASSURANCE 3

5.0 OBSERVATIONS 4

6.0 REFERENCES 5

List of Figures

Figure 1 Site Location Map
Figure 2 Former PCB Manufacturing Area Monitoring Well Locations
Figure 3 Potentiometric Surface Map – Middle / Deep Hydrogeologic Unit
Figure 4 PCB Results - SHU Wells
Figure 5 PCB Results – MHU / DHU Wells

List of Tables

Table 1 Monitoring Well Gauging Information
Table 2 Groundwater & DNAPL Analytical Detections
Table 3 Monitoring Well PMA MW-1M Mann-Kendall Trend Analysis
Table 4 Monitoring Well PMA MW-2M Mann-Kendall Trend Analysis
Table 5 Monitoring Well PMA MW-3S Mann-Kendall Trend Analysis
Table 6 Monitoring Well PMA MW-3M Mann-Kendall Trend Analysis
Table 7 Monitoring Well PMA MW-4D Mann-Kendall Trend Analysis

List of Appendices

Appendix A Groundwater Purging and Sampling Forms
Appendix B Chains-of-Custody
Appendix C Quality Assurance Report
Appendix D Groundwater Analytical Results (with Data Review Sheets)

1.0 INTRODUCTION

This report presents the results of the 4th Quarter 2008 (4Q08) sampling event performed at the Solutia Inc. (Solutia) W.G. Krummrich Facility located in Sauget, Illinois (Site). This sampling event was conducted in accordance with the PCB Groundwater Quality Assessment Program Work Plan (Solutia 2008). 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 source area wells, PMAMW04S and PMAMW04D (formerly designated PSMW02, and listed as such on the chain of custody), are screened in the Shallow Hydrogeologic Unit (SHU) and Deep Hydrogeologic Unit (DHU), respectively.
- Three well clusters (PMAMW01S/M, PMAMW02S/M and PMAMW03S/M) are located down-gradient of the source area and outside of the 25 mg/kg total PCB in soil isoconcentration line. These clusters include wells screened in the SHU (designated with an "S") and Middle Hydrogeologic Unit (MHU) (designated with an "M").
- Two individual wells designated PMAMW05M and PMAMW06D are located down-gradient of the source area, with PMAMW05M screened in the MHU and PMAMW06D screened in the DHU (designated with a "D").

Groundwater samples were collected from nine of the ten monitoring wells during the 4Q08 sampling event. A DNAPL sample was collected from monitoring well PMAMW04S based on dense non-aqueous phase liquid (DNAPL) being present in the monitoring well during sampling.

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

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted the 4Q08 PCB Groundwater Quality Assessment Program field activities November 17 through 19, 2008.

Groundwater Level Measurements – On November 17, 2008, an oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL) in the PCB Groundwater Quality Assessment Program well network. NAPL was not detected within any of the ten monitoring wells during gauging, but it was collected during sampling of PMAMW04S. Depth to groundwater measurements were collected from accessible existing wells (i.e., GM-, K- , PSMW- and PMA-series) and

piezometers clusters (installed for the Sauget Area 2 RI/FS and WGK CA-750 Environmental Indicator projects) specified in the PCB Groundwater Quality Assessment Program Work Plan.

Well gauging information for the 4Q08 event is presented in **Table 1**. As the middle and deep hydrogeologic units are the primary migration pathway for constituents present in groundwater at the WGK Facility, a groundwater potentiometric surface map based on water level data from wells screened in the MHU and DHU is presented as (**Figure 3)**.

Groundwater Sampling - Low-flow sampling techniques were used for groundwater sample collection on November 18 and 19, 2008. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 200 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

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

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

Sampling commenced upon completion of purging. Prior to sample collection, the flow-thru cell was bypassed to allow for collection of uncompromised groundwater. Consistent with the work plan, samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved.

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 for PCB analysis.

Each sample was labeled immediately following collection. The sample identification system used for each sample involved the following nomenclature “PMAMW#-MMYY-QAC” where:

- **PMAMW# – Monitoring Well Location (PCB Manufacturing Area (PMA)) and Number**
- **MMYY – Month and year of sampling quarter**, **e.g.: November (Fourth quarter),**

2008 (1108)

- **QAC – will denote QA/QC samples (when applicable):**
  - **EB- equipment blank**
  - **AD- analytical duplicate**
  - **MS or MSD – Matrix Spike or Matrix Spike Duplicate**

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

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for PCBs using Method 680.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness as described in the PCB Water Quality Assessment Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. Laboratory result pages (i.e. Form 1's) along with data validation review sheets are included in **Appendix D**.

A total of 14 samples (nine investigative groundwater samples, one DNAPL, one field duplicate, one MS/MSD pair, one equipment blank) were prepared and analyzed by Test America for PCBs. The results for the various analyses were submitted as sample delivery groups (SDGs) KPM026 and KPM027. The latter consisted of the results from the PMAMW04S DNAPL sample. The results for all other samples were reported under SDG KPM026.

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 Water Quality Assessment 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.

5.0 OBSERVATIONS

This section presents a brief summary of the groundwater analytical results from the 4Q08 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 D.**

Shallow Hydrogeologic Unit

A DNAPL sample was collected from source area SHU monitoring well PMAMW04S, and total PCBs were detected at a concentration of 297,300,000 µg/kg. Historically, measurable DNAPL has been observed in PMAMW04S during previous sampling events.

Of the three down-gradient PCB Groundwater Quality Assessment Program SHU monitoring wells (PMAMW01S through PMAMW03S), PCBs were only detected in monitoring well PMAMW03S, at a concentration of 0.24 µg/L. These data indicate that PCBs in the SHU attenuated over the 300 to 400 ft distance between PMAMW04S and the three downgradient monitoring wells. PCB sampling results for the SHU are presented on **Figure 4**.

Middle/Deep Hydrogeologic Unit

Laboratory analytical results for monitoring well PMAMW04D (formerly designated PSMW02) located in the Former PCB Manufacturing Area indicated a total PCB concentration of 0.27 µg/L for the 4Q08 sampling event. PCBs were also detected in four of the five downgradient monitoring wells at concentrations of 0.26 µg/L (PMAMW01M), 2.5 µg/L (PMAMW02M)/(2.7 µg/L duplicate), 0.71 µg/L (PMAMW03M), and 0.43 µg/L (PMAMW06D). PCBs were not detected in the groundwater samples collected from monitoring well PMAMW05M. **Figure 5** displays the 4Q08 PCB sampling results for the MHU/DHU.

The 4Q08 sampling event is the second event conducted under the PCB Groundwater Quality Assessment Program. Mann-Kendall trend analyses of total PCBs in unfiltered samples of groundwater from monitoring wells within (PMAMW04D) or downgradient of (PMAMW 01M, 02M, 03S, and 03M) the former PCB Manufacturing Area are presented in **Tables 3** through **7**. There is a statistically significant upward trend in concentrations at PMAMW01M, but no trends at any of the other wells.

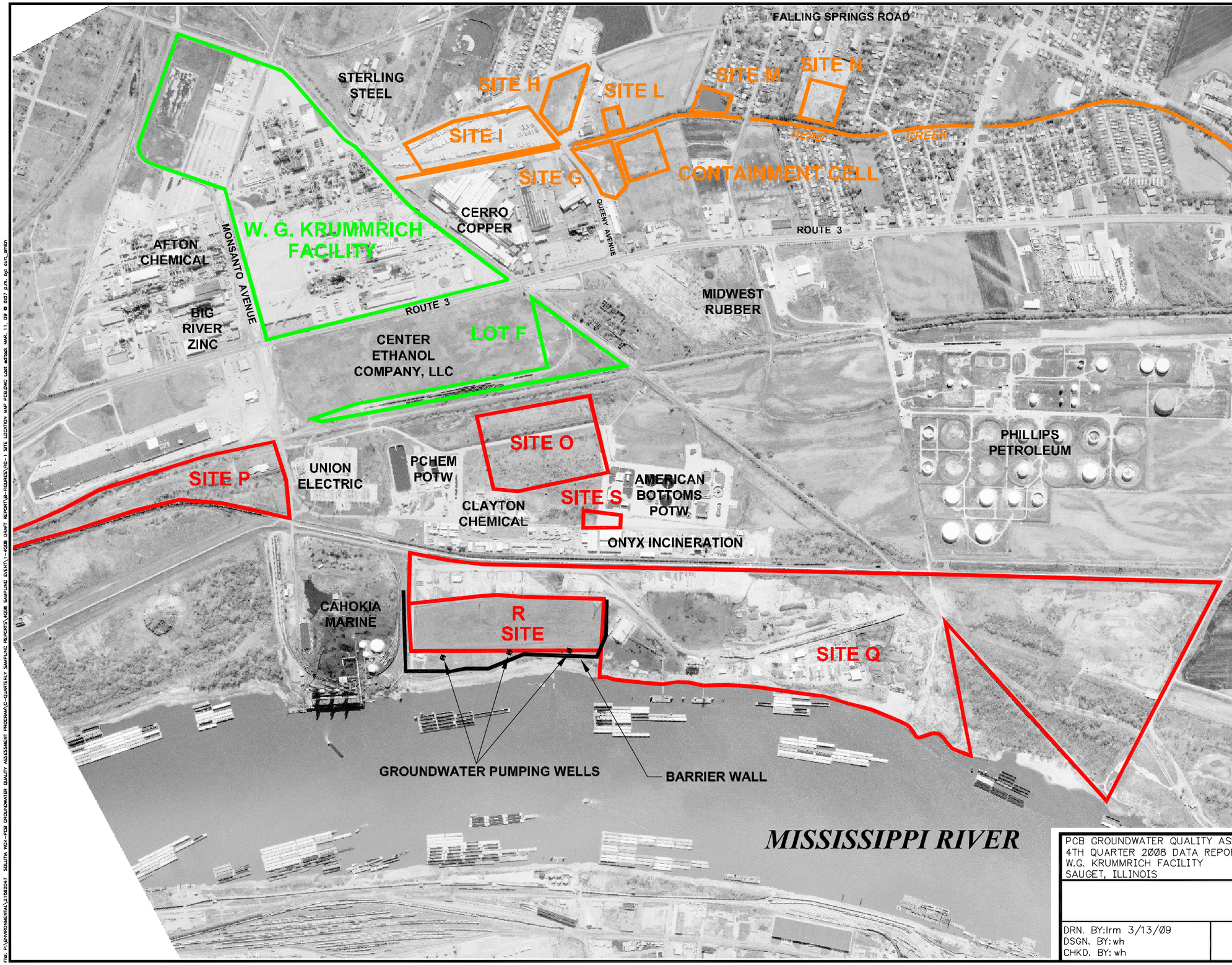
After eight quarters of sampling under the PCB Groundwater Quality Assessment Program, the Mann-Whitney U Test will be performed to determine whether or not concentrations in the second four quarters were higher or lower than the first four quarters. Linear regression analysis will be done for the eight quarters of data provided the data distribution allows the use of parametric statistical analysis.

6.0 REFERENCES

Solutia Inc, 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.

Figures



LEGEND

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

0 1000
SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

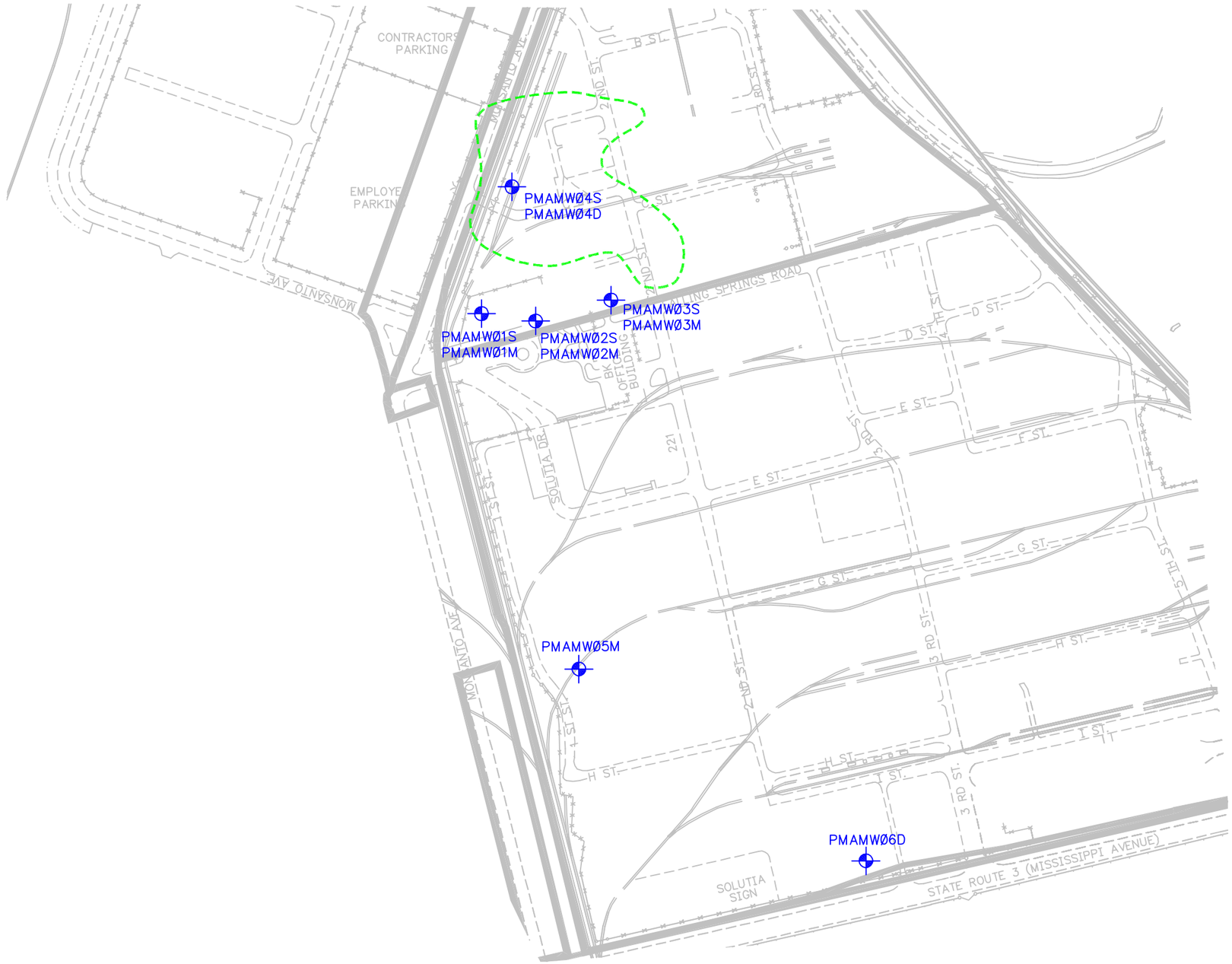
PROJECT NO. 21562047

URS

DRN. BY: lrm 3/13/09
DSGN. BY: wh
CHKD. BY: wh

Site Location Map

FIG. NO. 1



LEGEND

MONITORING WELL LOCATION

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

N E S W

0 300

SCALE FEET

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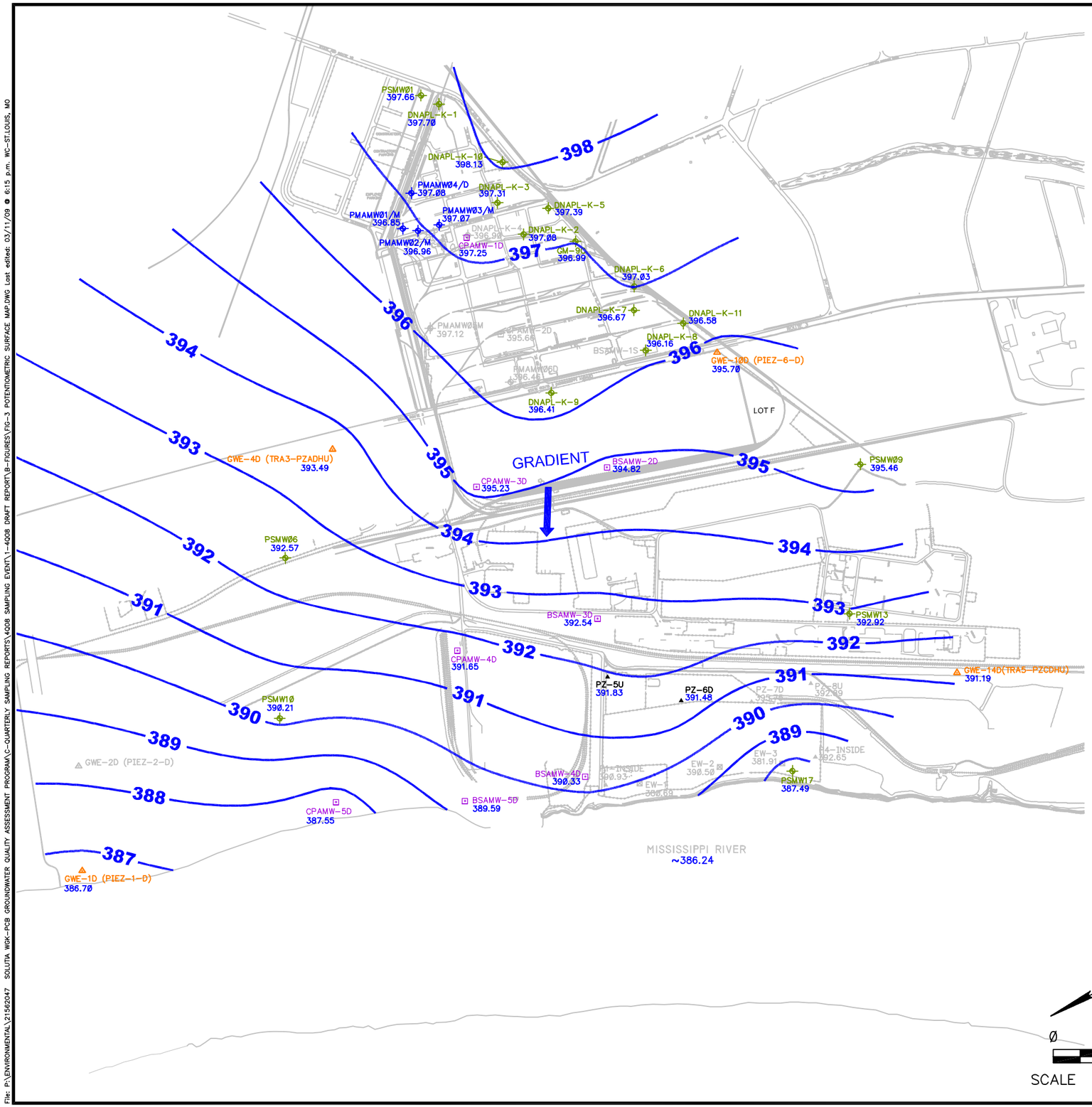
DRN. BY: lrm 3/13/09 DSGN. BY: ekf CHKD. BY: ekf	Former PCB Manufacturing Area Monitoring Well Locations
	FIG. NO. 2

File: P:\ENVIRONMENTAL\21562047 SOLUTIA WGK-PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG-2 FORMER PCB MANUFACTURING AREA MW LOCATIONS.DWG Last edited: MAR. 11, 09 @ 5:58 p.m. by: curt_smith



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)
- INDICATES GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED NOVEMBER 17th, 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-7D, PZ-8U, 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, DNAPL-K-4, 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.

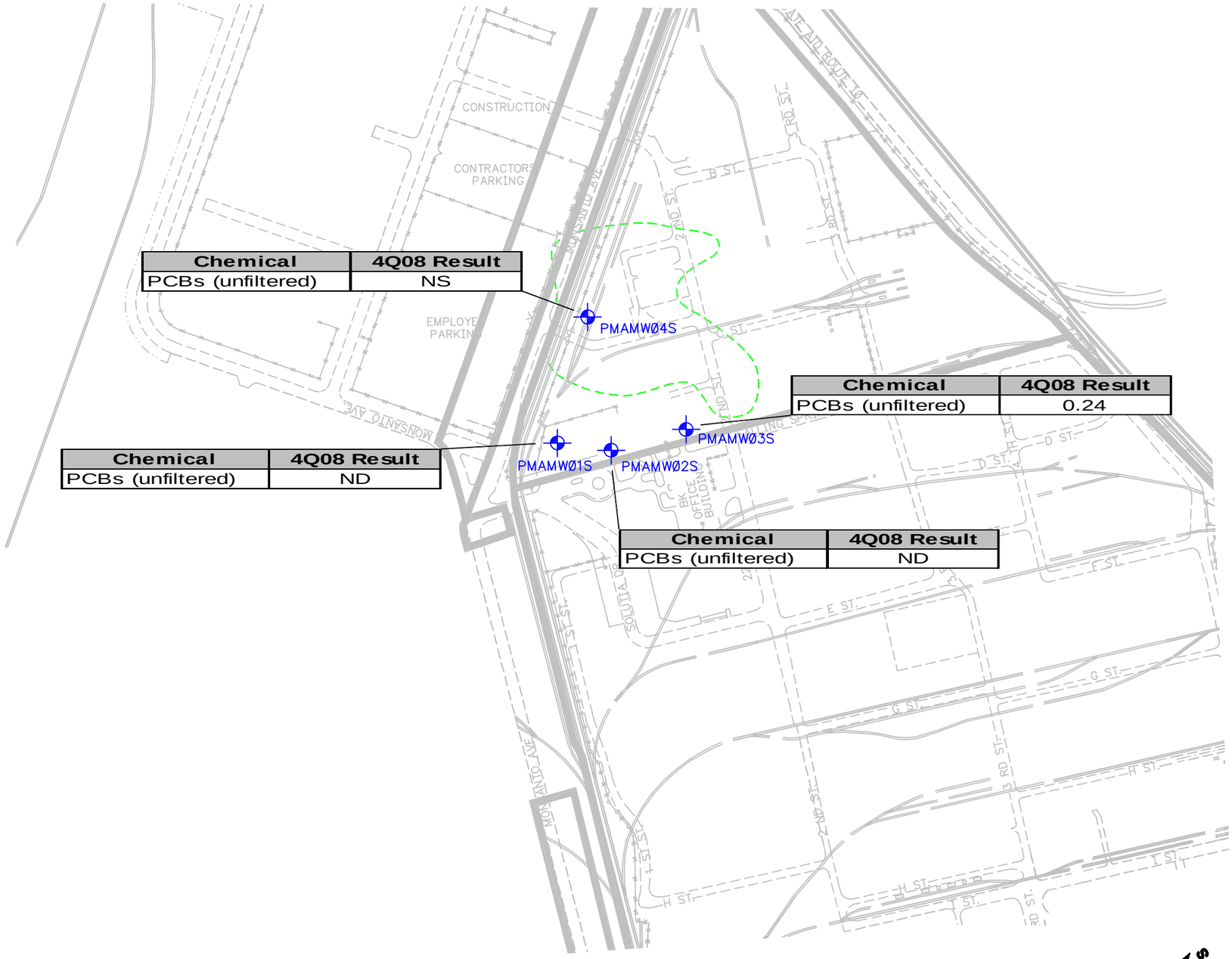
N

0 1000

SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM 4TH QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562047
URS	
DRN. BY:lrm 3/13/09 DSGN. BY:ekf CHKD. BY:tja	Potentiometric Surface Map Middle Deep Hydrogeologic Unit
	FIG. NO. 3

File: P:\ENVIRONMENTAL\21562047 SOLUTIA WGK-PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\8-FIGURES\FIG-3 POTENTIOMETRIC SURFACE MAP.DWG Last edited: 03/11/09 @ 6:15 p.m. WG-ST.LOUIS, MO



Chemical	4Q08 Result
PCBs (unfiltered)	NS

Chemical	4Q08 Result
PCBs (unfiltered)	0.24

Chemical	4Q08 Result
PCBs (unfiltered)	ND

Chemical	4Q08 Result
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 680 HOMOLOGS.
2. RESULTS ARE SHOWN IN ug/L.
3. ND DENOTES NOT DETECTED.
4. NS DENOTES NOT SAMPLED. PMAMW04S CONTAINED DNAPL AND THE GROUNDWATER WAS NOT SAMPLED DURING THE 3Q08 AND 4Q08 SAMPLING EVENT.

N E S W

0 300

SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562047

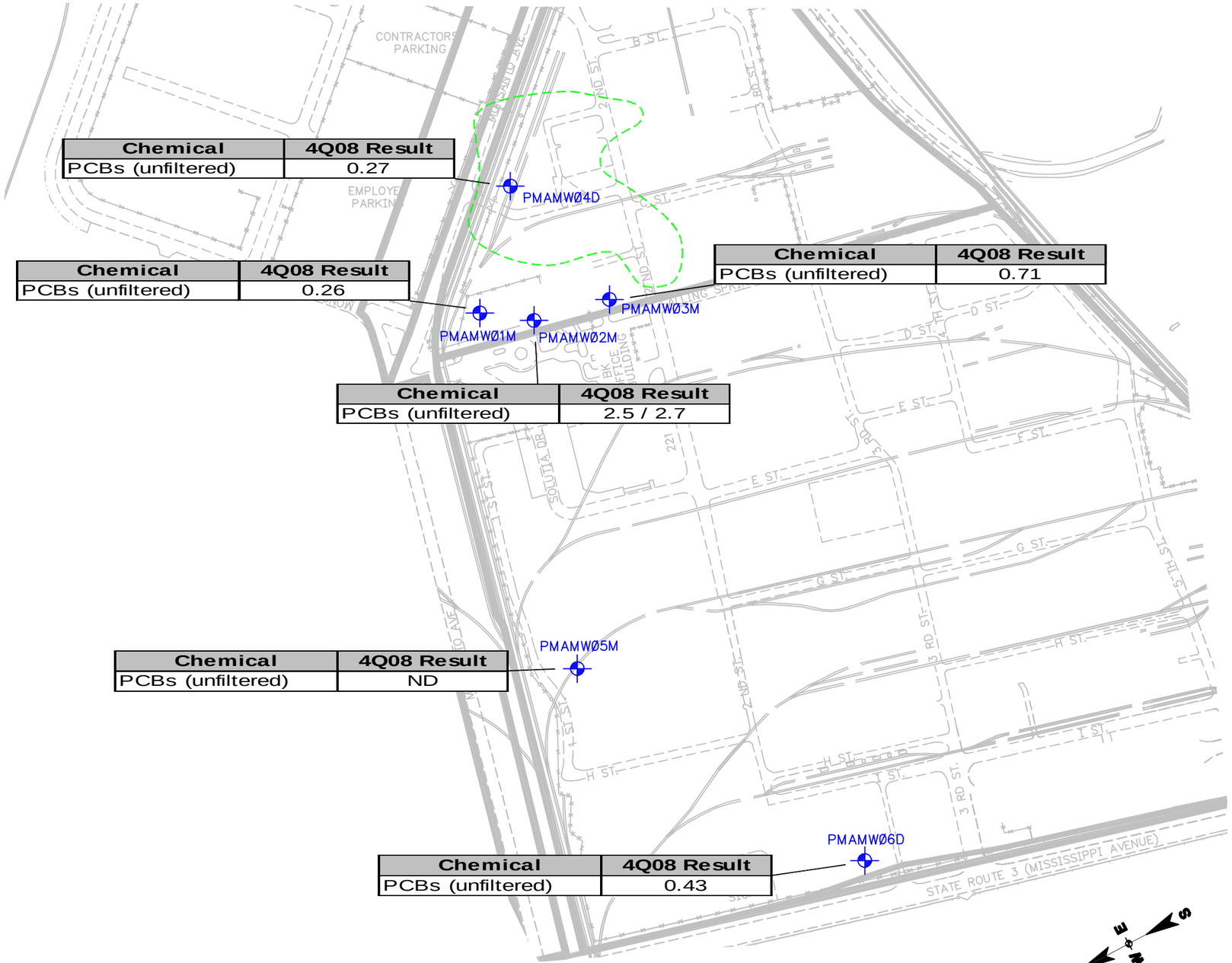
URS

DRN. BY: lrm 3/13/09
DSGN. BY: ekf
CHKD. BY: tja

PCB Results – SHU Wells

FIG. NO. 4

File: P:\ENVIRONMENTAL\21562047 SOLUTIA WGK-PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG-4 TOTAL PCBS SHU WELLS.DWG Last edited: MAR. 12, 09 @ 09:39 a.m. by: curt_smith



Chemical	4Q08 Result
PCBs (unfiltered)	0.27

Chemical	4Q08 Result
PCBs (unfiltered)	0.26

Chemical	4Q08 Result
PCBs (unfiltered)	0.71

Chemical	4Q08 Result
PCBs (unfiltered)	2.5 / 2.7

Chemical	4Q08 Result
PCBs (unfiltered)	ND

Chemical	4Q08 Result
PCBs (unfiltered)	0.43

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. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE

0 300
SCALE FEET

PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562047

URS

DRN. BY: lrm 3/13/09
DSGN. BY: ekf
CHKD. BY: tja

PCB Results – MHU/DHU Wells

FIG. NO. 5

File: P:\ENVIRONMENTAL\21562047 SOLUTIA WGK-PCB GROUNDWATER QUALITY ASSESSMENT PROGRAM\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG-5 TOTAL PCBS MHU-DHU WELLS.DWG Last edited: MAR. 11, 09 @ 6:13 p.m. by: curt_smith

Tables

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						17-Nov-08				Area
	Ground Elevation* (feet)	Top of Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Bottom (feet btoc)	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	16.00	--	27.32	396.31	WGK
PMAMW01S	410.06	410.06	20.18	25.18	389.88	384.88	12.16	-	24.92	397.90	WGK
PMAMW02S	411.66	411.66	22.94	27.94	388.72	383.72	14.64	-	27.35	397.02	WGK
PMAMW03S	412.06	412.06	22.71	27.71	389.35	384.35	14.91	-	27.40	397.15	WGK
PMAMW04S	410.43	410.43	20.99	25.99	389.44	384.44	13.21	-	25.36	397.22	WGK
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)											
PMAMW01M	410.08	410.08	54.54	59.54	355.54	350.54	13.23	-	59.63	396.85	WGK
PMAMW02M	411.93	411.93	56.87	61.87	355.06	350.06	14.97	-	61.55	396.96	WGK
PMAMW03M	412.10	412.10	57.07	62.07	355.03	350.03	15.03	-	61.82	397.07	WGK
PMAMW05M	411.27	410.97	52.17	57.17	359.10	354.10	13.85	-	56.97	397.12	WGK
PSMW01	409.37	412.59	34.56	39.56	374.81	369.81	14.93	--	46.06	397.66	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	20.31	--	77.05	394.82	WGK
BSAMW-3D (PSMW12)	412.91	415.74	104.80	109.80	308.11	303.11	23.20	--	114.82	392.54	WGK
BSAMW-4D (PSMW16D)	425.00	424.69	118.54	123.54	306.46	301.46	34.36	--	123.21	390.33	WGK
BSAMW-5D (PSMW15D(R))	420.80	420.49	116.25	120.85	304.95	299.95	30.90	--	120.95	389.59	WGK
CPAMW-1D (PSMW03)	408.62	408.32	66.12	71.12	342.50	337.50	11.07	--	70.81	397.25	WGK
CPAMW-2D (PSMW04)	408.51	408.20	99.96	104.96	308.55	303.55	12.54	--	104.67	395.66	WGK
CPAMW-3D (PSMW07)	410.87	410.67	101.90	106.90	308.97	303.97	15.44	--	112.87	395.23	WGK
CPAMW-4D (PSMW11)	421.57	421.20	116.44	121.44	305.13	300.13	29.55	--	121.02	391.65	WGK
CPAMW-5D (PSMW14D)	411.03	413.15	105.51	110.51	305.52	300.52	25.60	--	114.69	387.55	WGK
DNAPL-K-1	413.07	415.56	108.2	123.2	304.87	289.87	17.86	--	123.18	397.70	WGK
DNAPL-K-2	407.94	407.72	97.63	112.63	310.31	295.31	10.64	--	112.40	397.08	WGK
DNAPL-K-3	412.13	411.91	104.8	119.8	307.33	292.33	14.60	--	119.33	397.31	WGK
DNAPL-K-4	409.48	409.15	102.55	117.55	306.93	291.93	12.25	--	NG	396.90	WGK
DNAPL-K-5	412.27	411.91	102.15	117.15	310.12	295.12	14.52	--	116.50	397.39	WGK
DNAPL-K-6	410.43	410.09	102.47	117.47	307.96	292.96	13.06	--	116.95	397.03	WGK
DNAPL-K-7	408.32	407.72	100.4	115.4	307.92	292.92	11.05	--	115.38	396.67	WGK
DNAPL-K-8	408.56	411.38	102.65	117.65	305.91	290.91	15.22	--	117.20	396.16	WGK
DNAPL-K-9	406.45	405.97	97.42	112.42	309.03	294.03	9.56	--	111.20	396.41	WGK
DNAPL-K-10	413.50	413.25	105.43	120.43	308.07	293.07	15.12	--	120.35	398.13	WGK
DNAPL-K-11	412.20	411.78	105.46	120.46	306.74	291.74	15.20	--	120.30	396.58	WGK
EW-1	442.02	422.72	53	131	369.02	291.02	NG	NG	NG	380.69	Site R
EW-2	418.53	419.84	41.50	104.90	377.03	313.63	NG	NG	NG	390.50	Site R
EW-3	420.58	421.45	56.70	126.00	363.88	294.58	NG	NG	NG	381.91	Site R
GM-9C	409.54	411.21	88	108	321.54	301.54	14.22	--	108.40	396.99	WGK
GWE-1D (PIEZ-1D)	412.80	415.60	117	127	295.80	285.80	28.90	--	NG	386.70	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	12.25	--	78.80	393.49	WGK
GWE-10D (PIEZ-6D)	410.15	412.87	102.5	112.5	307.65	297.65	17.17	--	114.88	395.70	Lot F
GWE-14D (TRA5-PZCDHU)	420.47	422.90	90	96	330.47	324.47	31.71	--	96.98	391.19	WGK

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						17-Nov-08				Area
	Ground Elevation* (feet)	Top of Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)	
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock) (continued)											
P1-INSIDE	423.00	424.26	55.00	130.00	368.00	293.00	NG	NG	NG	--	Site R
P4- INSIDE	420.50	423.64	52.50	132.50	368.00	288.00	NG	NG	NG	--	Site R
PMAMW04D (PSMW02)	411.22	410.88	68.84	73.84	342.38	337.38	13.8	-	73.37	397.08	WGK
PMAMW06D	407.63	407.32	96.49	101.49	311.14	306.14	10.86	-	101.29	396.46	WGK
PSMW06	404.11	406.63	99.80	104.80	304.31	299.31	14.06	--	109.84	392.57	WGK
PSMW09	403.92	403.52	100.40	105.40	303.52	298.52	8.06	--	105.15	395.46	WGK
PSMW10	409.63	412.18	101.23	106.23	308.40	303.40	21.97	--	111.31	390.21	WGK
PSMW13	405.80	405.53	106.08	111.08	299.72	294.72	12.61	--	110.24	392.92	WGK
PSMW17 (BWMW-4D)	420.22	423.26	121.25	126.25	298.97	293.97	35.77	--	134.06	387.49	WGK
PZ-5U	421.52	420.99	40.00	140.00	381.52	281.52	NG	NG	NG	391.83	Site R
PZ-6D	421.64	418.64	41.70	131.70	377.55	287.55	NG	NG	NG	391.48	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.
bgs - below ground surface
btoc - below top of casing
NG - not gauged

Table 2
Groundwater and DNAPL Analytical Detections

Sample ID	Sample Date	Units	Monochlorobiphenyl	Dichlorobiphenyl	Trichlorobiphenyl	Tetrachlorobiphenyl	Pentachlorobiphenyl	Hexachlorobiphenyl	Heptachlorobiphenyl	Octachlorobiphenyl	Nonachlorobiphenyl	Decachlorobiphenyl
Shallow Hydrologic Unit												
PMAMW01S-1108	11/18/2008	µg/L	<0.097	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02S-1108	11/18/2008	µg/L	<0.097	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW03S-1108	11/19/2008	µg/L	**0.24**	<0.1	<0.2	<0.2	<0.2	<0.2	<0.3	<0.3	<0.5	<0.5
PMAMW-4S-1108-DNAPL	11/19/2008	µg/kg	<500,000	**4,300,000**	**25,000,000**	**59,000,000**	**46,000,000**	**79,000,000**	**73,000,000**	**11,000,000**	<2,600,000	<2,600,000
Middle / Deep Hydrologic Unit												
PMAMW01M-1108	11/18/2008	µg/L	**0.26**	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02M-1108	11/18/2008	µg/L	**2.5**	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW02M-1108-AD	11/18/2008	µg/L	**2.7**	<0.097	<0.097	<0.19	<0.19	<0.19	<0.29	<0.29	<0.49	<0.49
PMAMW03M-1108	11/19/2008	µg/L	**0.71**	<0.1	<0.1	<0.21	<0.21	<0.31	<0.31	<0.31	<0.52	<0.52
PMAMW05M-1108	11/18/2008	µg/L	<0.097	<0.097	<0.097	<0.19	<0.19	<0.19	<0.28	<0.28	<0.49	<0.49
PMAMW04D-1108	11/19/2008	µg/L	**0.15**	**0.12**	<0.097	<0.19	<0.19	<0.19	<0.28	<0.28	<0.49	<0.49
PMAMW06D-1108	11/18/2008	µg/L	**0.43**	<0.097	<0.097	<0.19	<0.19	<0.19	<0.28	<0.28	<0.49	<0.49

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

Table 3

Monitoring Well PMA MW-1M Mann-Kendall Trend Analysis

W.G.Krummrich Facility PCB Mfg. Area Monitoring Well MW-1M Mann-Kendall Trend Analysis												
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Row
	2Q06	3Q06	4Q06	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Total
Total PCBs, ug/L	ND	0.24	0.21	0.17	0.26	0.29	48	ND	0.18	0.38	0.26	
Compare to Event 1		1	1	1	1	1	1	NA	1	1	1	9
Compare to Event 2			-1	-1	1	1	1	-1	-1	1	1	1
Compare to Event 3				-1	1	1	1	-1	-1	1	1	2
Compare to Event 4					1	1	1	-1	1	1	1	5
Compare to Event 5						1	1	-1	-1	1	1	2
Compare to Event 6							1	-1	-1	1	-1	-1
Compare to Event 7								-1	-1	-1	-1	-4
Compare to Event 8									1	1	1	3
Compare to Event 9										1	1	2
Compare to Event 10											-1	-1

Mann-Kendall Statistic (S)	**18**

90 % Confidence Mann-Kendall Statistic	**17**

Table 4

Monitoring Well PMA MW-2M Mann-Kendall Trend Analysis

W.G.Krummrich Facility PCB Mfg. Area Monitoring Well MW-2M Mann-Kendall Trend Analysis

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Row
	2Q06	3Q06	4Q06	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Total
Total PCBs, ug/L	2.3	2.4	2.8	2.1	3.3	2.5	3.1	1.7	3.0	4.3	2.5	
Compare to Event 1		1	1	-1	1	1	1	-1	1	1	1	6
Compare to Event 2			1	-1	1	1	1	-1	1	1	1	5
Compare to Event 3				-1	1	-1	1	-1	1	1	-1	0
Compare to Event 4					1	1	1	-1	1	1	1	5
Compare to Event 5						-1	-1	-1	-1	1	-1	-4
Compare to Event 6							1	-1	1	1	1	3
Compare to Event 7								-1	-1	1	-1	-2
Compare to Event 8									1	1	1	3
Compare to Event 9										1	-1	0
Compare to Event 10											-1	-1

Mann-Kendall Statistic (S)	**15**

90 % Confidence Mann-Kendall Statistic	**17**

Table 5

Monitoring Well PMA MW-3S Mann-Kendall Trend Analysis

W.G.Krummrich Facility PCB Mfg. Area Monitoring Well MW-3S Mann-Kendall Trend Analysis

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Row
	2Q06	3Q06	4Q06	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Total
Total PCBs, ug/L	0.66	0.32	0.20	0.35	0.80	0.30	0.21	0.25	0.64	0.26	0.24	
Compare to Event 1		-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-8
Compare to Event 2			-1	1	1	-1	-1	-1	1	-1	-1	-3
Compare to Event 3				1	1	1	1	1	1	1	1	8
Compare to Event 4					1	-1	-1	-1	1	-1	-1	-3
Compare to Event 5						-1	-1	-1	-1	-1	-1	-6
Compare to Event 6							-1	-1	1	-1	-1	-3
Compare to Event 7								1	1	1	1	4
Compare to Event 8									1	1	-1	1
Compare to Event 9										-1	-1	-2
Compare to Event 10											-1	-1

Mann-Kendall Statistic (S)	**-13**

90 % Confidence Mann-Kendall Statistic	**-17**

Table 6

Monitoring Well PMA MW-3M Mann-Kendall Trend Analysis

W.G.Krummrich Facility PCB Mobility and Migration Monitoring Well MW-3M Mann-Kendall Trend Analysis

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Row
	2Q06	3Q06	4Q06	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	Total
Total PCBs, ug/L	5.18	1.90	ND	0.77	ND	0.86	0.76	0.39	0.92	1.3	0.71	
Compare to Event 1		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Compare to Event 2			-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Compare to Event 3				1	NA	1	1	1	1	1	1	7
Compare to Event 4					-1	1	-1	-1	1	1	-1	-1
Compare to Event 5						1	1	1	1	1	1	6
Compare to Event 6							-1	-1	1	1	-1	-1
Compare to Event 7								-1	1	1	-1	0
Compare to Event 8									1	1	1	3
Compare to Event 9										1	-1	0
Compare to Event 10											-1	-1

Mann-Kendall Statistic (S)	**-6**

90 % Confidence Mann-Kendall Statistic	**-17**

Table 7

Monitoring Well PMA MW-4D* Mann-Kendall Trend Analysis

W.G.Krummrich Facility PCB Mfg. Area Monitoring Well MW-4D* Mann-Kendall Trend Analysis											
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Row
	2Q06	3Q06	4Q06	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	4Q08	Total
Total PCBs, ug/L	0.34	0.10	2.07	0.33	0.50	0.35	0.23	0.27	0.44	0.27	
Compare to Event 1		-1	1	-1	1	1	-1	-1	1	-1	-1
Compare to Event 2			1	1	1	1	1	1	1	1	8
Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-7
Compare to Event 4					1	1	-1	-1	1	-1	0
Compare to Event 5						-1	-1	-1	-1	-1	-5
Compare to Event 6							-1	-1	1	-1	-2
Compare to Event 7								1	1	1	3
Compare to Event 8									1	1	2
Compare to Event 9										-1	-1

Mann-Kendall Statistic (S)	**-3**

90 % Confidence Mann-Kendall Statistic	**-15**

* Formerly known as PS MW-2

Appendix A

Groundwater Purging and Sampling Forms

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moon, M. Corbett
DATE: 11/ 18 /2008 WEATHER: 30s, fair
MONITORING WELL ID: PMAMW01S SAMPLE ID: PMAMW01S-[redacted]08

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 24.94 ft
Depth to Water (btoc): 12.35 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): 12.59 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) = 22.44 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

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)
500	0920	12.63	colorless	None	7.01	16.24	1.313	1.3	2.07	117.1
1000	0923	12.57			6.91	16.31	1.326	-0.3	1.48	112.1
1500	0926	12.47			6.94	16.46	1.350	-1.2	1.25	105.3
2000	0929	12.47			6.91	16.27	1.370	-3.3	0.93	100.6
2500	0932	12.47			6.91	16.35	1.371	-4.0	100	99.7
3000	0935	12.47			6.90	16.39	1.381	-4.6	0.79	98.4
4000	0938	12.47			6.93	17.01	1.396	-4.9	0.78	97.2
4500	0941	12.47	✓	✓	6.89	16.97	1.403	-5.1	0.76	96.3

Start Time: 0917
Stop Time: 0941
Elapsed Time: 24 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 18 /2008

SAMPLING DATA

Sample Date: 11/18 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1000
Sample Flow Rate: 200
Analysis: Total PCBs
QA/QC: MS/MSD

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality Assessment
PROJECT NUMBER: 21562047.00004
FIELD PERSONNEL: Mike Corbett, Sherry Moore
DATE: 11/18/2008
WEATHER: sunny, 35°
MONITORING WELL ID: PMAMW01M
SAMPLE ID: PMAMW01M-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 59.3 ft
Depth to Water (btoc): 13.55 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): 45.95 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) = 56.80 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~~ 1,150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 3,450 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	1022	13.35	colorless	hydrocarbon	7.16	15.36	2.440	3.6	0.60	-119.1
1200	1028	↓	↓	↓	7.17	14.86	2.417	1.9	0.60	-122.0
2400	1034				7.16	14.66	2.374	2.1	0.42	-124.4
3600	1040				7.16	13.83	2.359	0.1	0.38	-123.6
4800	1046				7.16	14.88	2.322	-0.9	0.31	-126.5
6000	1052				7.17	15.13	2.297	-2.0	0.28	-131.8
7200	1058				7.16	15.46	2.273	-2.4	0.28	-133.2

Start Time: 1022
Stop Time: 1058
Elapsed Time: 36 min
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/18/2008

SAMPLING DATA

Sample Date: 11/18/2008
Sample Time: 1100
Analysis: Total PCBs
Sample Method: Stainless Steel Monsoon
Sample Flow Rate: 200 mL/min
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S Moore, M. Corbett
DATE: 11/ 18 /2008 WEATHER: 30s, fair
MONITORING WELL ID: PMAMW02S SAMPLE ID: PMAMW02S-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 27.33 ft
Depth to Water (btoc): 14.75 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): 12.58 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) = 24.83 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)
400	1134	14.80	colorless	none	7.37	18.06	1.172	41.5	1.53	67.2
1600	1142	14.80	↓		7.22	17.50	1.163	32.7	0.84	56.6
2300	1145	14.80		↓	7.21	18.05	1.172	0.6	0.50	60.2
4000	1154	14.80			7.13	18.12	1.148	-2.0	0.48	64.8
5200	1200	14.80			7.19	14.32	1.168	-4.5	0.43	69.5
6400	1206	14.80	↓	↓	7.17	17.43	1.167	-4.7	0.43	73.1

Start Time: 1134
Stop Time: 1206
Elapsed Time: 32 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 18 /2008

SAMPLING DATA

Sample Date: 11/ 18 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1215
Sample Flow Rate: 200
Analysis: Total PCBs
QA/QC: EB after this well (PMA MW02M-1108-EB)

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S Moss, N Perbet
DATE: 11/ 18 /2008 WEATHER: 30s, Sunny
MONITORING WELL ID: PMAMW02M SAMPLE ID: PMAMW02M-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 61.54 ft
Depth to Water (btoc): 15.05 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): 46.49 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) = 59.04 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)
200	1232	15.05	Colorless	Slight PCB	7.30	16.57	2.197	55.5	2.17	-90.1
1400	1235	15.05			7.33	16.18	2.326	38.9	0.72	-117.2
2600	1244	15.05			7.33	16.07	2.302	19.9	0.57	-120.4
3800	1250	15.05			7.32	16.05	2.314	10.8	0.43	-123.0
5000	1256	15.05			7.28	16.17	2.296	6.0	0.33	-123.1
6200	1302	15.05			7.30	16.12	2.298	2.6	0.33	-123.5
7400	1308	15.05			7.31	16.14	2.300	0.5	0.29	-123.4

Start Time: 1230
Stop Time: 1308
Elapsed Time: 38 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/ 18 /2008

SAMPLING DATA

Sample Date: 11/ 18 /2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1310
Sample Flow Rate: 200
Analysis: Total PCBs
QA/QC: DUP (PMAMW02M-1108-FD
EB before this well (PMAMW02M-1108-RD)

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moore, N Sattam
DATE: 11/ 18 /2008 WEATHER: 30s, windy
MONITORING WELL ID: PMAMW03S SAMPLE ID: PMAMW03S-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 27.40 ft
Depth to Water (btoc): 14.67 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): 12.73 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) = 24.9 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)~~ 11.50 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~(1500)~~ 34.50 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)
300	0917	14.71	cloudy	chem. like	6.68	15.54	1.381	0.8	8.23	56.5
1500	0923	14.68	↓		7.00	15.65	1.453	22.7	1.23	-8.7
2700	0929	14.68	colorless		7.02	15.96	1.483	9.6	0.94	-10.2
3900	0935	14.68			7.03	16.04	1.491	6.3	0.53	-7.4
5100	0941	14.68			7.03	15.80	1.493	2.6	0.46	-2.3
6300	0947	14.68			7.02	15.70	1.494	1.8	0.47	-0.5
7500	0953	14.68	↓	↓	7.02	15.78	1.491	0.7	0.46	2.6

Start Time: 0915 Elapsed Time: 38 min Water Quality Meter ID: YSI 6920
Stop Time: 0953 Average Purge Rate (mL/min): 200 Date Calibrated: 11/ 19 /2008

SAMPLING DATA

Sample Date: 11/ 19 /2008 Sample Time: 1000 Analysis: Total PCBs
Sample Method: Stainless Steel Monsoon Sample Flow Rate: 200 Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moore, N. Salem
DATE: 11/19/2008 WEATHER: Very Sunny
MONITORING WELL ID: PMAMW03M SAMPLE ID: PMAMW03M-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 61.81 ft
Depth to Water (btoc): 14.75 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): ~~49.14~~ 47.06 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) = 35.78 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: NM ppm
Wellbore PID/FID Reading: NM 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. (±3 %) (ms/cm)	Turbidity (NTUs)	DO (±10 % or ±2 mg/L) (mg/l)	ORP (±20 mV) (mv)
200	1015	14.78	dark	Chemical	8.30	16.72	3.69	201.2	1.10	-27.8
1350	1020	14.80	dark		8.72	16.82	3.45	225.0	2.9	-145.5
2500	1025	14.80	dark		8.81	16.92	3.35	182.0	0.24	-159.9
3650	1030	14.80	dark		8.94	17.02	3.16	103.2	0.20	-178.8
4800	1035	14.80	dark		9.02	17.20	3.11	90.3	0.23	-182.8
5950	1040	14.80	dark		9.04	17.23	3.04	73.2	0.27	-188.9
7100	1045	14.80	dark		9.11	17.22	2.97 ~~2.24~~	64.7	0.20	-194.8
8250	1050	14.80	dark		9.18	17.28	2.93	60.4	0.17	-197.6
9400	1100	14.80			9.22	17.28	2.85	48.8	0.16	-202.6
10550	1105	14.80			9.26	17.33	2.81	43.6	0.15	-205.6
21600	1110	14.80			9.28	17.33	2.97	42.1	0.15	-207.3
22770	1115	14.80			9.27	17.32	2.29	41.7	0.15	-207.3

Start Time: 1015
Stop Time: 1115
Elapsed Time: 1 hr
Average Purge Rate (mL/min): 2000 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/19/2008

SAMPLING DATA

Sample Date: 11/19/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1115
Sample Flow Rate: 200 mL/m
Analysis: Total PCBs
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moore, N. Satam
DATE: 11/19/2008 WEATHER:
MONITORING WELL ID: PMAMW04S SAMPLE ID: PMAMW04S-1108

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)

Start Time: Elapsed Time: Water Quality Meter ID: YSI 6920
Stop Time: Average Purge Rate (mL/min): Date Calibrated: 11/ /2008

SAMPLING DATA

Sample Date: 11/ /2008 Sample Time: Analysis: Total PCBs
Sample Method: Stainless Steel Monsoon Sample Flow Rate: Date Calibrated: NA

COMMENTS:
Well not sampled for groundwater. Product sample collected (PMAMW-4S-1108-DNAPL) for total PCBs.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moore, N. Sultan
DATE: 11/19/2008 WEATHER: 40s, windy
MONITORING WELL ID: ~~PSMW02~~ PMA MW04D SAMPLE ID: PSMW02-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): — ft
Constructed Well Depth (btoc): 73.50 ft
Depth to Water (btoc): 13.43 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 68.50 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 60.07 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) = 40.96 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: NM ppm
Wellbore PID/FID Reading: NM 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)
700	1155	13.47	dark	chemical	8.04	16.83	2.075	600	2.25	-100.6
1350	1200	13.47			6.86	16.62	2.213	439.7	0.05	105.7
1355	1205	13.47			6.85	16.60	2.221	343.0	0.33	-116.7
2500	1210	13.47			6.84	16.64	2.223	325	0.30	-116.2
3650	1215	13.47			6.83	16.67	2.274	200.0	0.29	-117.9
4800	1220	13.47			6.84	16.70	2.320	84.6	0.28	-118.1
5050	1225	13.47			6.85	16.71	2.323	MR	0.27	-118.6
7100	1230	13.47	Clear		6.82	16.65	2.349	57.6	0.20	-118.4
8150	1235	13.47			6.81	16.63	2.362	33.4	0.19	-118.6
9200	1240				6.82	16.63	2.360	23.17	0.19	-118.2
10250	1245				6.82	16.68	2.380	34.6	0.18	-117.6
11600	1250				6.81	16.72	2.386	19.03	0.20	-117.6
12750	1255	13.47	Clear		6.81	16.73	2.386	18.0	0.21	-117.6

Start Time: 1155
Stop Time: 1200
Elapsed Time: 1 hr
Average Purge Rate (mL/min): 700 mL/hr
Water Quality Meter ID: YSI 6920
Date Calibrated: 6/19/2008

SAMPLING DATA

Sample Date: 11/19/2008
Sample Time: 1300
Analysis: PCBs, Dissolved PCBs (0.45 Micron filter), Dissolved PCBs (10 Micron filter)
Sample Method: Stainless Steel Monsoon
Sample Flow Rate: 200 ml/min
Date Calibrated: ~~NA~~ 11/19/08

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moore, M. Corbett
DATE: 11/18/2008 WEATHER: 30s, Sunny
MONITORING WELL ID: PMAMW05 SAMPLE ID: PMAMW05-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 57.05 ft
Constructed Well Depth (btoc): ~ ft
Depth to Water (btoc): 13.83 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ft 52.05
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 43.22 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) = 54.55 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~~ 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)
400	1405	13.86	cloudy	none	7.33	17.87	2.344	20.3	1.06	-89.4
1600	1411	13.86			7.28	17.33	2.358	8.4	0.76	-113.2
2800	1417	13.86			7.27	16.95	2.338	5.2	0.49	-133.8
4000	1423	13.86			7.24	17.13	2.331	4.6	0.37	-143.8
5200	1429	13.86			7.24	16.66	2.338	3.5	0.40	-150.6
6400	1435	13.86			7.24	16.22	2.334	2.4	0.41	-153.1
7600	1441	13.86			7.23	16.44	2.335	2.2	0.39	-156.3

Start Time: 1402
Stop Time: 1441
Elapsed Time: 39 min.
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/18/2008

SAMPLING DATA

Sample Date: 11/18/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1445
Sample Flow Rate: 200
Analysis: Total PCBs, ~~Dissolved PCBs (0.45 micron filter)~~ Sm
Date Calibrated: NA

COMMENTS:

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: PCB GW Quality PROJECT NUMBER: 21562047.00004 FIELD PERSONNEL: S. Moon, M. Garrett
DATE: 11/18/2008 WEATHER: 30s, sunny
MONITORING WELL ID: PMAMW06 SAMPLE ID: PMAMW06-1108

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 101.40 ft
Constructed Well Depth (btoc): — ft
Depth to Water (btoc): 10.86 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ft 96.4
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 90.54 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) = 98.9 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)
200	1522	10.86	cloudy	hydrocarbon	7.32	18.34	1.293	15.0	2.91	-104.4
1400	1528	10.86	colorless		7.13	17.78	1.325	0.9	0.90	-137.2
2600	1534	10.86			7.12	17.64	1.342	-1.2	0.56	-144.0
3800	1540	10.86			7.12	17.45	1.345	-2.4	0.56	-145.3
5000	1546	10.86			7.12	17.53	1.346	-2.7	0.43	-146.2
~~6200~~	~~1552~~	~~10.86~~	sm							

Start Time: 1516
Stop Time: 1546
Elapsed Time: 30 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/18/2008

SAMPLING DATA

Sample Date: 11/18/2008
Sample Time: 1550
Analysis: Total PCBs, ~~Dissolved PCBs (0.45 micron filter), PCBs Dissolved (10 micron filter)~~ sm
Sample Method: Stainless Steel Monsoon
Sample Flow Rate: 200
Date Calibrated: NA

COMMENTS:

Appendix B

Chains-of-Custody

Serial Number 011908

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: LGK PCB GW Quality	PROJECT NO.: 21562447.0004	PROJECT LOCATION (STATE): IL
TAL (LAB) PROJECT MANAGER: Layne Gulizia	P.O. NUMBER: —	CONTRACT NO.:
CLIENT (SITE) PM: T. Adams	CLIENT PHONE: 314-431-0110	CLIENT FAX: 314-431-0162
CLIENT NAME: URS	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)		

PAGE 1 OF

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 (Total)	REMARKS
11/18/08	1000	PMAMW01S-1108 ✓	G	X				2	
	1000	PMAMW01S-1108-MS ✓	G	X				2	
	1000	PMAMW01S-1108-MSD ✓	G	X				2	
	1100	PMAMW01M-1108 ✓	G	X				2	
	1215	PMAMW02S-1108 ✓	G	X				2	
	1230	PMAMW02M-1108-EB ✓	G	X				2	
	1310	PMAMW02M-1108 ✓	G	X				2	
	1310	PMAMW02M-1108-AD ✓	G	X				2	
	1445	PMAMW05-1108 ✓	G	X				2	
	1550	PMAMW06-1108 ✓	G	X				2	
11/19/08	1010	PMAMW03S-1108 ✓	G	X				2	
	1115	PMAMW03M-1108 ✓	G	X				2	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
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
KG	11/20/08	1009	YES ◯ NO ◯		680-42497	3.8/3.0/4.1

TAL8240-680 (1207)

Serial Number 011909

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:

PAGE 2 OF 2

PROJECT REFERENCE: WGK PCB GW Quality	PROJECT NO.: 21562047.00001	PROJECT LOCATION (STATE): IL
TAL (LAB) PROJECT MANAGER: Lidya Gulizia	P.O. NUMBER: —	CONTRACT NO.: —
CLIENT (SITE) PM: J. Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462
CLIENT NAME: URS Corp	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): —		

STANDARD REPORT DELIVERY ◯ DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯ DATE DUE _____

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 (Total); None

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
11/19/08	1300	~~PMA~~ PSMW02-1108 ✓	G	X				2	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
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
KS	11/20/08	1009	YES ◯ NO ◯		680 42497	3.3/3.7/4.1

TAL8240-680 (1207)

Serial Number 019044

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: BIG K PCB GW Quality	PROJECT NO: 21562047.00004	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: J. Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX: 314-429-0462	EXPEDITED REPORT DELIVERY (SURCHARGE) ○ DATE DUE
CLIENT NAME: URS	CLIENT E-MAIL: thomas_adams@urscorp.com		
CLIENT ADDRESS: 1001 Highlands Plaza Dr. W Ste 300 St. Louis MO 63110			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:
COMPANY CONTRACTING THIS WORK (if applicable)			

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

REQUIRED ANALYSIS: none Total PCB

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
11/19/08	1315	PMAMW-4S-1108-DNAPL	G				X	2	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/21/08	1800						
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]	112208	0950	YES ○ NO ○		68042580	0.4 EMP

TAL8240-680 (1207)

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

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

PCB Groundwater Quality Assessment
4th Quarter 2008 Data Report

Prepared for

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

March 2009

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562047.00004

1.0 INTRODUCTION 1
2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES 3
3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES 3
4.0 SURROGATE SPIKE RECOVERIES 3
5.0 LABORATORY CONTROL SAMPLES RECOVERIES 4
6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES 4
7.0 FIELD DUPLICATE RESULTS 4
8.0 INTERNAL STANDARD RESPONSES 4
9.0 RESULTS REPORTED FROM DILUTIONS 5

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in November 2008 at the Solutia W.G. Krummrich plant as part of the 4th Quarter 2008 PCB Groundwater 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 14 samples (nine 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) KPM026 and KPM027, 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 Groundwater Quality Assessment Work Plan, (Solutia 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.

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

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, 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. However, the COC was not signed or dated by URS personnel; therefore samples were not relinquished properly. Although the COC was not signed all samples were received by the laboratory and in good condition. No qualification of data was required.

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 were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS recoveries were within evaluation criteria. No qualification 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-1108 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 nine 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.

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.

Appendix D

Groundwater Analytical Results

(and Data Review Sheets)

SDG KPM026

Results of Samples from Wells:

PMAMW01S
PMAMW01M
PMAMW02S
PMAMW02M
PMAMW03S
PMAMW03M
PMAMW04D
PMAMW05M
PMAMW06D

Solutia Krummrich Data Review

Laboratory SDG: KPM026

Reviewer: Elizabeth Kunkel

Date Reviewed: 01/08/2009

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

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

Sample Identification #	Sample Identification #
PMAMW01S-1108	PMAMW01M-1108
PMAMW02S-1108	PMAMW02M-1108-EB
PMAMW02M-1108	PMAMW02M-1108-AD
PMAMW05-1108	PMAMW06-1108
PMAMW03S-1108	PMAMW03M-1108
PSMW02-1108	

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?

Although not noted in the laboratory case narrative, one internal standard recovery was outside evaluation criteria. This issue is addressed further in the appropriate section below.

The cooler receipt form did not indicate any problems. However, the COC was not signed or dated by URS personnel; therefore samples were not relinquished properly. Although the COC was not signed all samples were received by the laboratory and in good condition. No qualification of data was required.

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.

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			

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample PMAMW01S was spiked with 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			

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Field ID	Parameter	Analyte	IS Area Recovery	IS Criteria
PMAMW01M-1108	PCBs	Phenanthrene-d_{10}	**185082**	188975-350955

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} 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			

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PMAMW02M-1108	PMAMW02M-1108-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 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

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-42497-1	PMAMW01S-1108	Water	11/18/2008 1000	11/20/2008 1009
680-42497-1MS	PMAMW01S-1108-MS	Water	11/18/2008 1000	11/20/2008 1009
680-42497-1MSD	PMAMW01S-1108-MSD	Water	11/18/2008 1000	11/20/2008 1009
680-42497-2	PMAMW01M-1108	Water	11/18/2008 1100	11/20/2008 1009
680-42497-3	PMAMW02S-1108	Water	11/18/2008 1215	11/20/2008 1009
680-42497-4EB	PMAMW02M-1108-EB	Water	11/18/2008 1230	11/20/2008 1009
680-42497-5	PMAMW02M-1108	Water	11/18/2008 1310	11/20/2008 1009
680-42497-6FD	PMAMW02M-1108-AD	Water	11/18/2008 1310	11/20/2008 1009
680-42497-7	PMAMW05-1108	Water	11/18/2008 1445	11/20/2008 1009
680-42497-8	PMAMW06-1108	Water	11/18/2008 1550	11/20/2008 1009
680-42497-9	PMAMW03S-1108	Water	11/19/2008 1000	11/20/2008 1009
680-42497-10	PMAMW03M-1108	Water	11/19/2008 1115	11/20/2008 1009
680-42497-11	~~PSMW02-1108~~ PMAMW04D-1108	Water	11/19/2008 1300	11/20/2008 1009

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW01S-1108**

Lab Sample ID: 680-42497-1
Client Matrix: Water

Date Sampled: 11/18/2008 1000
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/09/2008 2206
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
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	77	25 - 113

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW01M-1108**

Lab Sample ID: 680-42497-2
Client Matrix: Water

Date Sampled: 11/18/2008 1100
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/09/2008 2237
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
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	63	25 - 113

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW02S-1108**

Lab Sample ID: 680-42497-3
Client Matrix: Water

Date Sampled: 11/18/2008 1215
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/09/2008 2307
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
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	74	25 - 113

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW02M-1108-EB**

Lab Sample ID: 680-42497-4EB
Client Matrix: Water

Date Sampled: 11/18/2008 1230
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/09/2008 2338
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
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	76	25 - 113

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW02M-1108**

Lab Sample ID: 680-42497-5
Client Matrix: Water

Date Sampled: 11/18/2008 1310
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 0009
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

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

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	2.5		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

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW02M-1108-AD**

Lab Sample ID: 680-42497-6FD
Client Matrix: Water

Date Sampled: 11/18/2008 1310
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 1220
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-125023
Prep Batch: 680-123737

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

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	2.7		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

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW05-1108**

Lab Sample ID: 680-42497-7
Client Matrix: Water

Date Sampled: 11/18/2008 1445
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 0111
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
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	64	25 - 113

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW06-1108**

Lab Sample ID: 680-42497-8
Client Matrix: Water

Date Sampled: 11/18/2008 1550
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 0142
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

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

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.43		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: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW03S-1108**

Lab Sample ID: 680-42497-9
Client Matrix: Water

Date Sampled: 11/19/2008 1000
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 0214
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
Lab File ID: N/A
Initial Weight/Volume: 500 mL
Final Weight/Volume: 0.5 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.24		0.10
Dichlorobiphenyl	0.10	U	0.10
Trichlorobiphenyl	0.10	U	0.10
Tetrachlorobiphenyl	0.20	U	0.20
Pentachlorobiphenyl	0.20	U	0.20
Hexachlorobiphenyl	0.20	U	0.20
Heptachlorobiphenyl	0.30	U	0.30
Octachlorobiphenyl	0.30	U	0.30
Nonachlorobiphenyl	0.50	U	0.50
DCB Decachlorobiphenyl	0.50	U	0.50

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

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: **PMAMW03M-1108**

Lab Sample ID: 680-42497-10
Client Matrix: Water

Date Sampled: 11/19/2008 1115
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 0244
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-124892
Prep Batch: 680-123737

Instrument ID: GC/MS SemiVolatiles - F
Lab File ID: N/A
Initial Weight/Volume: 960 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.71		0.10
Dichlorobiphenyl	0.10	U	0.10
Trichlorobiphenyl	0.10	U	0.10
Tetrachlorobiphenyl	0.21	U	0.21
Pentachlorobiphenyl	0.21	U	0.21
Hexachlorobiphenyl	0.21	U	0.21
Heptachlorobiphenyl	0.31	U	0.31
Octachlorobiphenyl	0.31	U	0.31
Nonachlorobiphenyl	0.52	U	0.52
DCB Decachlorobiphenyl	0.52	U	0.52

Surrogate	%Rec	Acceptance Limits
Decachlorobiphenyl-13C12	46	25 - 113

Analytical Data

Client: Solutia Inc.

PMAMW040-1108

Job Number: 680-42497-1
Sdg Number: KPM026

Client Sample ID: ~~PSMW02-1108~~

Lab Sample ID: 680-42497-11
Client Matrix: Water

Date Sampled: 11/19/2008 1300
Date Received: 11/20/2008 1009

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 1.0
Date Analyzed: 12/10/2008 1601
Date Prepared: 11/25/2008 1653

Analysis Batch: 680-125023
Prep Batch: 680-123737

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

Analyte	Result (ug/L)	Qualifier	RL
Monochlorobiphenyl	0.15		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	63	25 - 113

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-42497-1
Sdg Number: KPM026

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

SDG KPM027

Results of Sample from Well:

PMAMW04S

Solutia Krummrich Data Review

Laboratory SDG: KPM027

Reviewer: Elizabeth Kunkel

Date Reviewed: 01/08/2009

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

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

Sample Identification #
PMAMW-4S-1108-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, one internal standard recovery was outside evaluation criteria. In addition, the PCB surrogate was 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.

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?

PCB surrogate Decachlorobiphenyl-13C12 was diluted out and not recovered in sample PMAMW-4S-1108-DNAPL. 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
PMAM-4S-1108-DNAPL	PCBs	Phenanthrene-d_{10}	**257271**	133894 - 248660

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} 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			

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: 680-42580-1
Sdg Number: KPM027

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-42580-1	PMAMW-4S-1108-DNAPL	Waste	11/19/2008 1315	11/22/2008 0950

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-42580-1
Sdg Number: KPM027

Client Sample ID: **PMAMW-4S-1108-DNAPL**

Lab Sample ID: 680-42580-1
Client Matrix: Waste

Date Sampled: 11/19/2008 1315
Date Received: 11/22/2008 0950

680 Polychlorinated Biphenyls (PCBs) (GC/MS)

Method: 680
Preparation: 680
Dilution: 500
Date Analyzed: 12/10/2008 1454
Date Prepared: 12/03/2008 2030

Analysis Batch: 680-125046
Prep Batch: 680-124352

Instrument ID: GC/MS SemiVolatiles - F
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	500000	U	500000
Dichlorobiphenyl	4300000		500000
Trichlorobiphenyl	25000000		500000
Tetrachlorobiphenyl	59000000		1000000
Pentachlorobiphenyl	46000000		1000000
Hexachlorobiphenyl	79000000		1000000
Heptachlorobiphenyl	73000000		1500000
Octachlorobiphenyl	11000000		1500000
Nonachlorobiphenyl	2600000	U	2600000
DCB Decachlorobiphenyl	2600000	U	2600000

Surrogate	%Rec		Acceptance Limits
Decachlorobiphenyl-13C12	0	D	30 - 130

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-42580-1
Sdg Number: KPM027

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.

SOLUTIA

Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

March 13, 2009

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

VIA FEDEX

Re: Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2008 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Route 3 Drum Site Groundwater Monitoring Program 4th Quarter 2008 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

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

Sincerely,

Gerald M. Rinaldi

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

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Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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4TH QUARTER 2008
DATA REPORT

ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING

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

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

March 2009

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562046.00000

1.0 INTRODUCTION 1

2.0 FIELD PROCEDURES 1

3.0 LABORATORY PROCEDURES 3

4.0 QUALITY ASSURANCE 3

5.0 OBSERVATIONS 4

6.0 REFERENCES 4

List of Figures

Figure 1 Site Location Map
Figure 2 Monitoring Well Location Map

List of Tables

Table 1 Monitoring Well Gauging Information
Table 2 Groundwater Analytical Results
Table 3 Monitored Natural Attenuation Results Summary

List of Appendices

Appendix A Groundwater Purging and Sampling Forms
Appendix B Chains-of-Custody
Appendix C Quality Assurance Report
Appendix D Groundwater Analytical Results (with Data Review Sheets)

1.0 INTRODUCTION

Solutia Inc. (Solutia) is conducting groundwater monitoring activities as outlined in the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia, 2008). The Illinois Route 3 Drum Site (Site) is an area associated with the Solutia W.G. Krummrich Facility located in Sauget, Illinois that is subject to a RCRA Administrative Order on Consent (AOC) entered into by the U.S. EPA and Solutia on May 3, 2000. This report presents the results of the sampling event completed in 4th Quarter 2008 (4Q08). A Site location map is presented in **Figure 1**.

During the 4Q08 sampling event, groundwater samples were collected from two Shallow Hydrogeologic Unit (SHU) monitoring wells, designated GM-31A and GM-58A (**Figure 2**), located hydraulically downgradient of the Site**.** Samples from each well were analyzed for semivolatile organic compounds (SVOCs) using EPA Method 8270C. In addition, samples were collected from both wells for evaluation of monitored natural attenuation (MNA). The types of natural attenuation processes active at the site will be determined by measurements of the following key geochemical parameters: alkalinity, carbon dioxide, chloride, dissolved oxygen (DO), ferrous iron, total and dissolved iron, total and dissolved manganese, methane, nitrate, sulfate, total and dissolved organic carbon, and oxidation-reduction potential (ORP).

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted the 4Q08 Illinois Route 3 Drum Site groundwater sampling activities on November 17 (groundwater level measurements) and November 25, 2008 (groundwater sampling). Groundwater samples were collected from two monitoring wells during the 4Q08 sampling event. This section summarizes the field investigative procedures.

Groundwater Level Measurements - On November 17, 2008, an oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL). Depth-to-groundwater measurements for the 4Q08 sampling event are presented in **Table 1**.

Groundwater Sampling - Low-flow sampling techniques were used for groundwater sample collection on November 25, 2008. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 200 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five

minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-thru cell volumes:

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

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

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

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

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

Each sample was labeled immediately following collection. The groundwater sample identification system included the following nomenclature: “GM-31A-1108” which denotes Groundwater Monitoring well number 31A sampled in November 2008. QA/QC samples are identified by the suffix AD or MS/MSD. A notation of “F” in the sample nomenclature indicates a sample that was filtered in the field with a 0.2 micron filter.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at approximately 4°C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment,

coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of FedEx® Priority Overnight delivery service. Field sampling data sheets are included in **Appendix A**. COC forms are included in **Appendix B**.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for the 40 CFR 264 Appendix IX SVOCs and MNA parameters, using the following methodologies:

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

Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness as described in the Revised Illinois Route 3 Drum Site Operations and Maintenance Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. Laboratory result pages (i.e. Form 1's) along with data validation review sheets are included in **Appendix D**.

A total of five groundwater samples (two investigative groundwater samples, one field duplicate, and one MS/MSD pair) were prepared and analyzed by Test America for SVOCs by USEPA SW-846 Method 8270C and MNA parameters. The results for the various analyses were submitted as sample delivery group (SDG) KOM02 containing results for GM-31A and GM-58A.

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999), USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2004) and the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan. Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for this SDG to meet the

project objectives. Completeness, which is defined to be the percentage of analytical results which are judged to be valid, including estimated (J/UJ) data, was 100 percent.

5.0 OBSERVATIONS

SVOCs were detected in groundwater samples from both monitoring wells, along with the duplicate sample collected during the 4Q08 sampling event. Laboratory analytical data for monitoring well GM-31A-1108, and corresponding duplicate GM-31A-1108-AD, indicate 1-Chloro-2,4-Dinitrobenzene was detected at concentrations of 15µg/L and 16µg/L; 2,4,6-Trichlorophenol was detected at concentrations of 30µg/L and 29µg/L; 2-Chloronitrobenzene/4-Chloronitrobenzene was detected at concentrations of 56µg/L and 58µg/L; and 2-Nitrobiphenyl was detected at concentrations of 17µg/L and 16µg/L. Only 2-Chloronitrobenzene/4-Chloronitrobenzene was detected in monitoring well GM-58A-1108, with a concentration of 36µg/L. A summary of SVOC detections is provided in **Table 2**, with MNA results provided in **Table 3**.

The 4Q08 sampling event was the second event conducted in accordance with the Revised Illinois Route 3 Drum Site Operations and Maintenance Plan. Groundwater samples will be collected for eight quarters, at which time the results will be analyzed to determine if any statistically significant changes have occurred for any of the constituents of concern. In addition, MNA results will be reviewed/analyzed at the end of eight quarters to determine the types and magnitude of active natural attenuation processes at the Site.

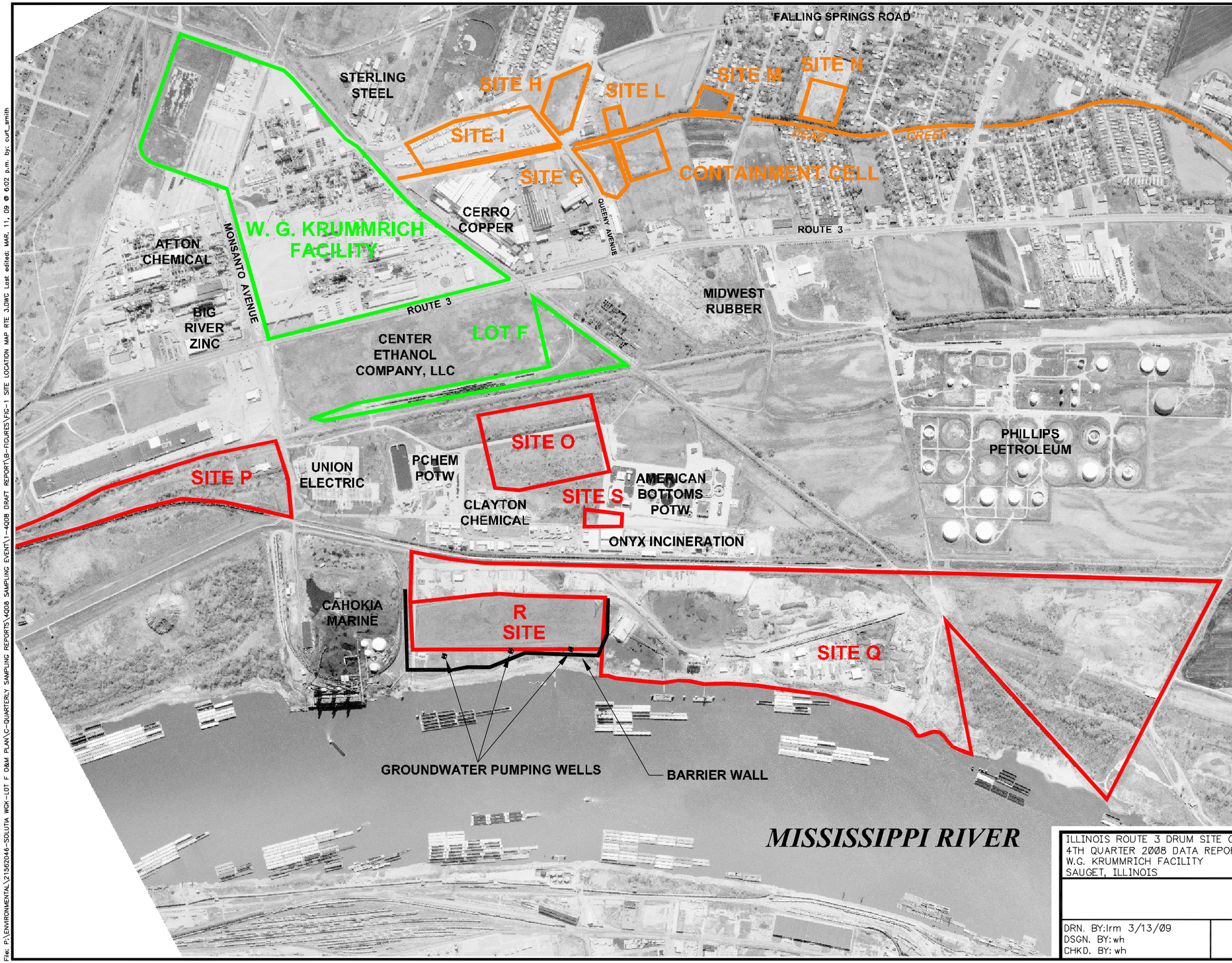
6.0 REFERENCES

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

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

U.S. Environmental Protection Agency (USEPA), 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

Figures



LEGEND

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

0 1000
SCALE FEET

ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
4TH QUARTER 2008 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562046

URS

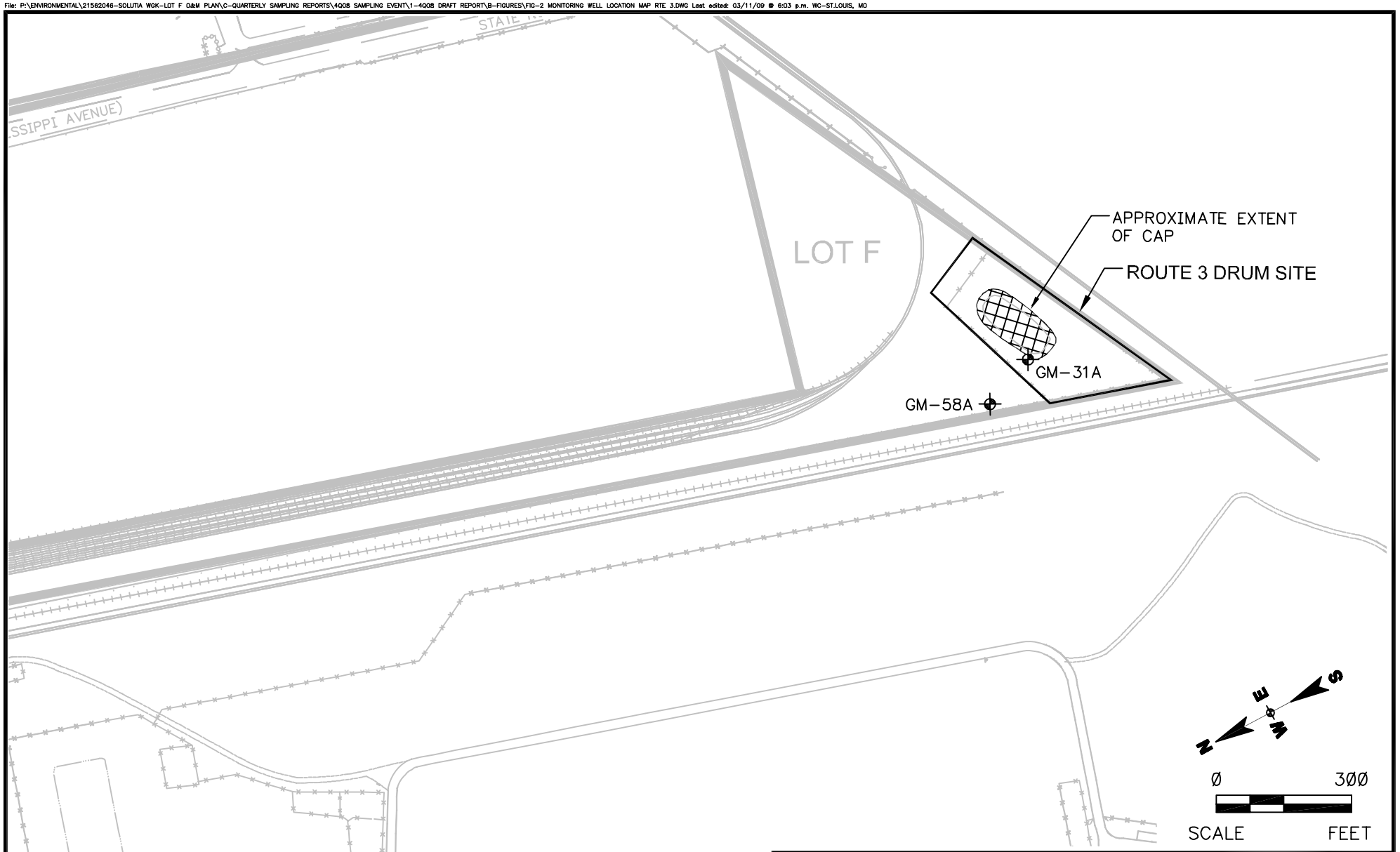
DRN. BY: lrm 3/13/09
DSGN. BY: wh
CHKD. BY: wh

Site Location Map

FIG. NO. 1

File: P:\ENVIRONMENTAL\21562046-SOLUTIA WGK-LOT F O&M PLAN\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG-1 SITE LOCATION MAP RTE 3.DWG Last edited: MAR. 11, 09 @ 6:02 p.m. by: curt_smith

File: P:\ENVIRONMENTAL\21562046-SOLUTIA WGK-LOT F O&M PLAN\C-QUARTERLY SAMPLING REPORTS\4Q08 SAMPLING EVENT\1-4Q08 DRAFT REPORT\B-FIGURES\FIG-2 MONITORING WELL LOCATION MAP RTE 3.DWG Last edited: 03/11/09 @ 6:03 p.m. WC-ST.LOUIS, MO



LEGEND

MONITORING WELL LOCATION

ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING 4TH QUARTER 2008 DATA REPORT W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS		PROJECT NO. 21562046
URS		
DRN. BY: lrm 3/13/09 DSGN. BY: ekf CHKD. BY:	**Monitoring Well Location Map**	FIG. NO. 2

Tables

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						17-Nov-08			
	Ground Elevation* (feet)	Top of Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)										
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	21.83	-	40.85	396.80
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	17.72	-	40.79	396.52

Notes:
* - Elevation based upon North American Vertical Datum (NAVD) 88 datum
bgs - below ground surface
btoc - below top of casing
Ground elevation for GM-58A calculated using top of screen elevation and depth to top of screen in feet below ground surface

Table 2
Groundwater Analytical Results

Sample ID	Sample Date	1,1'-Biphenyl (µg/L)	1-Chloro-2,4-Dinitrobenzene (µg/L)	2,4,6-Trichlorophenol (µg/L)	2,4-Dichlorophenol (µg/L)	2-Chloronitrobenzene/ 4-Chloronitrobenzene (µg/L)	2-Nitrobiphenyl (µg/L)	3-Nitrobiphenyl (µg/L)	3-Nitrochlorobenzene (µg/L)	4-Nitrobiphenyl (µg/L)	Nitrobenzene (µg/L)	Pentachlorophenol (µg/L)
GM-31A-1108	11/25/2008	<9.4	**15**	**30**	<9.4	**56 * J**	**17**	<9.4	<9.4	<9.4	<9.4	<47
GM-31A-1108-AD	11/25/2008	<9.4	**16**	**29**	<9.4	**58 * J**	**16**	<9.4	<9.4	<9.4	<9.4	<47
GM-58A-1108	11/25/2008	<9.7	<9.7	<9.7	<9.7	**36 * J**	<9.7	<9.7	<9.7	<9.7	<9.7	<49

Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given.
* = LCS, LCSD, MS,MSD, MD or surrogate exceeds the control limits
J = Estimated value
BOLD indicates concentration greater than the reporting limit

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (µg/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
GM-31A-1108	11/25/2008	520	51	46	5.97		2.4		1		6.4	7.2	91		3.4	64.2
GM-31A-F-1108	11/25/2008					0		<0.05		1.2				2.9		
GM-58A-1108	11/25/2008	530	58	100 J	6.8		0.35		1.4		6.4	0.65	150		3.6	59.9
GM-58A-F-1108	11/25/2008					0.1		0.058		1.5				2.6		

Notes:
DO and ORP were measured in the field using a YSI 6920 equipped with a flow-through cell.
Ferrous Iron readings were measured in the field using a LaMotte Colorimeter after the groundwater passed through a 0.2 µ filter.
mg/L = milligrams per liter
µg/L = micrograms per liter
<= Result is non-detect, less than the reporting limit given.
A blank space indicates sample not analyzed for select analyte.
F = Sample was filtered utilizing a 0.2 µ filter in the field.
J = Estimated value
mV=milivolts

Appendix A

Groundwater Purging and Sampling Forms

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK Route 3 Drum Lot
PROJECT NUMBER: 21562046.00004
FIELD PERSONNEL: N. Satam and M. Gabell
DATE: 11/25/2008
WEATHER:
MONITORING WELL ID: ~~GM-58A~~ GM-~~38A~~ 31A sm
SAMPLE ID: ~~GM-58A-1108~~ GM-31A-1108

INITIAL DATA

Well Diameter: 2" ~~in~~
Measured Well Depth (btoc): 40.90 ft
Constructed Well Depth (btoc): – ft
Depth to Water (btoc): 22.26 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ft 19.00
Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): 27.64 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) ~~= 35 ft~~ 30.90 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~~ 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)
1500	12:50	22.26	brown-orange	None	6.47	15.08	1.123	612	6.39	19.2
2500	12:55	22.26			6.43	15.17	1.143	180	6.27	42.2
3500	missed	reading	– Cleared	flow	through	cell				
4500	13:05	22.26	Clear	None	6.43	15.34	1.207	24.9	6.32	51.8
5500	13:10	22.26			6.36	15.43	1.221	19.0	6.05	51.0
6500	13:20	22.26			6.35	15.47	1.226	15.1	6.02	60.5
7500	1325	22.26			6.35	15.43	1.230	12.4	6.00	54.5
8500	1330	22.26			6.36	15.20	1.243	22.6	6.17	90.7
9500	1335	22.26			6.35	15.07	1.246	30.5	6.03	22.6
10500	1340	22.26			6.33	15.03	1.251	25.2	6.00	59.6
11500	1345	22.26			6.33	15.06	1.252	23.5	5.99	70.4
12500	1350	22.26			6.33	15.10	1.252	23.5	5.97	59.5

Start Time: ~~1445~~ MT 1250
Stop Time: ~~1550~~ MT 1350
Elapsed Time: 60 mins
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/25/2008

SAMPLING DATA

Sample Date: 11/25/2008
Sample Method: Stainless Steel Monsoon
Sample Time: 1350
Sample Flow Rate: 200 ml/m
Analysis: SVOCs (see sampling plan), Total Fe & Mn, Dissolved Fe, MNA
Date Calibrated: ~~NA~~ 11/25/08

COMMENTS:

MNA – Alkalinity, Carbon Dioxide, Chloride, Nitrate, Sulfate.
Total Iron, Dissolved Iron(0.2 Micron filter), Total Manganese, Dissolved Manganese (0.2 Micron filter),
Methane, Total Organic Carbon, Dissolved Organic Carbon (0.2 Micron filter)
Ferrous Iron (0.2 Micron filter) = 0.0

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK Route 3 Drum Lot
PROJECT NUMBER: 21562046.00004
FIELD PERSONNEL: N. Salam & M Corbett
DATE: 11/25 /2008
WEATHER: ~30°F, Sunny
MONITORING WELL ID: ~~GM-31A~~ GM-58A-1108
SAMPLE ID: ~~GM-31A-1108~~ GM-58A-1108

INITIAL DATA

Well Diameter: 2" in
Measured Well Depth (btoc): 40.90 ft
Constructed Well Depth (btoc): NA ft
Depth to Water (btoc): 18.19 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): ~~15~~ 17.40 ft
Screen Length: ~~15~~ 20 ft

Water Column Height (do not include LNAPL or DNAPL): 22.71 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) = ~~41.5~~ 38.90 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~~ 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~~ Peristaltic Pump (Geopump 10)

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)
1500	0930	18.19 ~~40.90~~	Cloudy-Gray	None	6.32	12.49	1.251	55.2	6.49	245.0
2500	0935	—			6.40	12.69	1.269	36.2	6.30	172.0
3500	0940	—			6.40	12.71	1.270	24.0	6.29	161.2
4500	0950	—			6.38	12.82	1.273	20.0	6.21	129.0
5500	0955	—			6.37	13.22	1.346	13.8	6.18	107.1
6500	1000	—			6.36	13.27	1.429	6.30	6.19	89.9
7500	1005	—			6.38	13.43	1.446	5.10	6.06	83.8
8500	1010	—			6.37	13.44	1.460	4.5	6.08	79.0
9500	1015	—			6.36	13.46	1.467	4.2	6.06	74.0
10500	1020	—			6.36	13.44	1.463	4.0	6.08	69.0
11500	1025	—			6.36	13.47	1.465	3.8	6.08	65.0
12500	1030	17.19			6.36	13.46	1.464	3.7	6.08	64.2

Start Time: 0930
Stop Time: 1030
Elapsed Time: 60 mins
Average Purge Rate (mL/min): 200 mL/min
Water Quality Meter ID: YSI 6920
Date Calibrated: 11/25 /2008

SAMPLING DATA

Sample Date: 11/25 /2008
Sample Method: ~~Stainless Steel Monsoon~~ Peristaltic Pump
Sample Time: 1030
Sample Flow Rate: 200 mL/min
Analysis: SVOCs (see sampling plan), Total Fe & Mn, Dissolved Fe, MNA
Date Calibrated: ~~NA~~ 11/25/08

COMMENTS:

MNA – Alkalinity, Carbon Dioxide, Chloride, Nitrate, Sulfate.
Total Iron, Dissolved Iron(0.2 Micron filter), Total Manganese, Dissolved Manganese (0.2 Micron filter).
Methane, Total Organic Carbon, Dissolved Organic Carbon (0.2 Micron filter)

Ferrous Iron (0.2 Micron filter) = 0.1

Appendix B

Chain-of-Custody

Serial Number 019020

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)
WGK Rte3 Drum Site	21562046.00000	IL

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

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

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

CLIENT ADDRESS: 1001 Highlands Plaza Dr. West Ste300 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:

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOCs 8270C (none)	Total Fe, Mn 6010B (HNO_3)	Dissolved Fe, Mn 6010B (HNO_3)	Alk/CO_2 310.1 (none)	Sulfate/Chloride 325.2/375.4 (none)	Methane RSK 175 (none)	Nitrate 353.2 (H_2SO_4/H_2SO_4)	TOC 415.1 (HCl)	DOC 415.1 (HCl)	REMARKS
11/25/08	1030	GM-58A-1108 ✓		X				2	1		1	1	3	2	1		
	1030	GM-58A-F-1108 ✓		X						1						1	
	1030	GM-58A-1108-MS ✓		X				2	1		1	1	3	2	1		
	1030	GM-58A-1108-MSD ✓		X				2	1		1	1	3	2	1		
	1030	GM-58A-F-1108-MS ✓		X						1						1	
	1030	GM-58A-F-1108-MSD ✓		X						1						1	
	1350	GM-31A-1108 ✓		X				2	1		1	1	3	2	1		
	1350	GM-31A-F-1108 ✓		X						1						1	
	1350	GM-31A-1108-AD ✓		X				2	1		1	1	3	2	1		
	1350	GM-31A-F-1108-AD		X						1						1	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	11/25/08	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]	112608		YES ◯ NO ◯		08042643	1.1/2.6 TEMP

TAL8240-680 (1207)

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

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

Illinois Route 3 Drum Site
4th Quarter 2008 Data Report

Prepared for

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

March 2009

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project # 21562046.00000

1.0 INTRODUCTION 1

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES 3

3.0 LABORATORY METHOD BLANKS 3

4.0 SURROGATE SPIKE RECOVERIES 4

5.0 LABORATORY CONTROL SAMPLES RECOVERIES 4

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES 4

7.0 FIELD DUPLICATE RESULTS 5

8.0 INTERNAL STANDARD RESPONSES 5

9.0 RESULTS REPORTED FROM DILUTIONS 5

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in November 2008 at the Illinois Route 3 Drum Site on the Solutia W.G. Krummrich Facility as part of the 4th Quarter 2008 sampling event. 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 semivolatile organic compounds (SVOCs), and monitored natural attenuation (MNA) parameters.

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 five samples (two investigative groundwater samples, one field duplicate pair, and one matrix spike and matrix spike duplicate (MS/MSD) pair were analyzed by Test America. These samples were analyzed as Sample Delivery Group (SDG) KOM02, utilizing the following USEPA SW-846 Methods:

- Method 8270C for SVOCs

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

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

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004 and the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, (Solutia 2008).

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

TABLE 1 Laboratory Data Qualifiers

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

TABLE 2 URS Data Qualifiers

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

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

The data review included evaluation of the following criteria:

Organics

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

Inorganics/General chemistry

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

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

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

Extractions and/or analyses were completed within the recommended holding time requirements; no qualification of data was required.

3.0 LABORATORY METHOD BLANK

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. No analytes were detected in any of the method blanks.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for SVOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for 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. Surrogates that were associated with quality control samples did not require qualification. In addition, no qualification of data was required if only one SVOC acid or base fraction surrogate was outside evaluation criteria. The USEPA National Functional Guidelines for Organic Data Review indicates to qualify data if two or more surrogates per SVOC fraction are outside criteria. No qualifications of data were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS recoveries were within evaluation criteria with the exception of those surrogates in data reviews discussed further in **Appendix D**. Qualifications due to LCS recoveries are included in the table below.

Field ID	Parameter	Analyte	Qualification
GM-58A-1108	SVOCs	2-Chlorobenzene/4-Chlorobenzene	**J**
GM-31A-1108	SVOCs	2-Chlorobenzene/4-Chlorobenzene	**J**
GM-31A-1108-AD	SVOCs	2-Chlorobenzene/4-Chlorobenzene	**J**

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

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were 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 one investigative sample, meeting the work plan frequency requirement.

No qualifications were made to the data if the MS/MSD 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.

Samples spiked and analyzed as MS/MSDs and their respective recoveries are discussed further in data reviews in **Appendix D**.

Samples that required qualification based on MS/MSD recoveries or matrix spike/matrix duplicate recoveries are included in the table below.

Field ID	Parameter	Analyte	Qualification
GM-58A-1108	General Chemistry	Chloride	**J**

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 two 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. IS areas must be within -50 percent to +100 percent for SVOCs. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time.

The internal standards area responses for the SVOCs were verified for the data reviews. IS responses met the criteria.

9.0 RESULTS REPORTED FROM DILUTIONS

Chloride and sulfate samples were diluted and reanalyzed due to the high levels of these analytes in the samples. The diluted sample results for chloride and sulfate were reported at the lowest possible reporting limit.

Appendix D

Groundwater Analytical Results

(with Data Review Sheets)

Solutia Krummrich Data Review

Laboratory SDG: KOM02

Reviewer: Elizabeth Kunkel

Date Reviewed: 01/12/2009

Guidance: USEPA National Functional Guidelines for Organic Data Review 1999. USEPA National Functional Guidelines for Inorganic Data Review 2004.

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

Sample Identification #	Sample Identification #
GM-58A-1108	GM-58A-F-1108
GM-31A-1108	GM-31A-F-1108
GM-31A-1108-AD	

1.0 Data Package Completeness

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

No, samples GM-31A-1108-AD and GM-31A-F-1108-AD were listed on the COC for MNA parameters and sample results were not received as part of this data package. However, URS cancelled MNA parameters for field duplicate samples GM-31A-1108-AD and GM-31A-F-1108-AD after samples were received by the laboratory.

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 SVOC surrogate, LCS, and MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria. The MSD recovery for methane was outside evaluation criteria. Also the MS/MSD recoveries were outside evaluation criteria for chloride and the MS recovery was outside evaluation criteria for sulfate. Samples were diluted due to high levels of target analytes. 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.

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS Recovery	RPD	LCS Criteria
680-123965/6-A	SVOCs	2-Chloronitrobenzene/ 4-Chloronitrobenzene	**151**	NA	70-130

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

Field ID	Parameter	Analyte	Qualification
GM-58A-1108	SVOCs	2-Chloronitrobenzene/ 4-Chloronitrobenzene	**J**
GM-31A-1108	SVOCs	2-Chloronitrobenzene/ 4-Chloronitrobenzene	**J**
GM-31A-1108-AD	SVOCs	2-Chloronitrobenzene/ 4-Chloronitrobenzene	**J**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Field ID	Parameter	Surrogate	Recovery	Criteria
GM-58A-1108	SVOCs	2-Fluorobiphenyl	**49**	50 - 113

Analytical data that required qualification based on surrogate data are included in the table below. Since only one base fraction surrogate was outside criteria and Functional Guidelines indicates to qualify data if two or more surrogates per SVOC fraction are outside criteria, no qualification of the SVOC data was required.

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 GM-58A-1108 was spiked and analyzed for SVOCs, methane, iron and manganese, chloride, nitrate, nitrate-nitrite, sulfate and total organic carbon. Sample GM-58A-F-1108 was spiked and analyzed for dissolved iron, manganese and dissolved organic carbon.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/ RPD Criteria
GM-58A-1108	SVOCs	Nitrobenzene	**136**/83	**49**	46-110/40
GM-58A-1108	SVOCs	2-Chloronitrobenzene/ 4-Chloronitrobenzene	**181/171**	5	70-130/40
GM-58A-1108	Dissolved Gases	Methane	83/**73**	11	75-125/30
GM-58A-1108	General Chemistry	Chloride	**80/84**	1	85-115/30
GM-58A-0808	General Chemistry	Sulfate	**66**/75	1	75-125/30

Analytical data that required qualification based on MS/MSD data are included in the table below. The MS/MSD recoveries for inorganic compounds with sample concentrations greater than four times (4X) the matrix spike concentration did not require evaluation or qualification. USEPA National Functional Guidelines for Organic Data Review indicates that organic data should not be qualified based on MS/MSD data alone and LCS recoveries were within evaluation criteria, therefore no qualification of the data was required.

Field ID	Parameter	Analyte	Qualification
GM-58A-1108	General Chemistry	Chloride	**J**

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?

Yes, sample GM-31A-1108 was duplicated and analyzed for total organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

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?

Yes

Field ID	Field Duplicate ID
GM-31A-1108	GM-31A-1108-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?

Analytes were detected in samples that were 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: 680-42643-1
Sdg Number: KOM02

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-42643-1	GM-58A-1108	Water	11/25/2008 1030	11/26/2008 0848
680-42643-1MS	GM-58A-1108 MS	Water	11/25/2008 1030	11/26/2008 0848
680-42643-1MSD	GM-58A-1108 MSD	Water	11/25/2008 1030	11/26/2008 0848
680-42643-2	GM-58A-F-1108	Water	11/25/2008 1030	11/26/2008 0848
680-42643-2MS	GM-58A-F-1108 -MS	Water	11/25/2008 1030	11/26/2008 0848
680-42643-2MSD	GM-58A-F-1108 - MSD	Water	11/25/2008 1030	11/26/2008 0848
680-42643-3	GM-31A-1108 AD **	Water	11/25/2008 1350	11/26/2008 0848
680-42643-4	GM-31A-F-1108	Water	11/25/2008 1350	11/26/2008 0848
680-42643-5	GM-31A-1108-AD	Water	11/25/2008 1350	11/26/2008 0848

* already designated as AD, last sample on list -

SAMPLE RESULTS

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-58A-1108**

Lab Sample ID: 680-42643-1
Client Matrix: Water

Date Sampled: 11/25/2008 1030
Date Received: 11/26/2008 0848

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3520C
Dilution: 1.0
Date Analyzed: 12/05/2008 1455
Date Prepared: 11/28/2008 1331

Analysis Batch: 680-124764
Prep Batch: 680-123965

Instrument ID: GC/MS SemiVolatiles - G
Lab File ID: g4406.d
Initial Weight/Volume: 1030 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.7	U	9.7
2,4-Dichlorophenol	9.7	U	9.7
Nitrobenzene	9.7	U	9.7
Pentachlorophenol	49	U	49
2,4,6-Trichlorophenol	9.7	U	9.7
1-Chloro-3-nitrobenzene	9.7	U	9.7
2-Nitrobiphenyl	9.7	U	9.7
3-Nitrobiphenyl	9.7	U	9.7
3,4-Dichloronitrobenzene	9.7	U	9.7
4-Nitrobiphenyl	9.7	U	9.7
2-chloronitrobenzene / 4-chloronitrobenzene	36	"J"	19
1-chloro-2,4-dinitrobenzene	9.7	U	9.7

Surrogate	%Rec		Acceptance Limits
2-Fluorobiphenyl	49	X	50 - 113
2-Fluorophenol	52		36 - 110
Nitrobenzene-d5	53		45 - 112
Phenol-d5	54		38 - 116
Terphenyl-d14	32		10 - 121
2,4,6-Tribromophenol	68		40 - 139

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-31A-1108**

Lab Sample ID: 680-42643-3
Client Matrix: Water

Date Sampled: 11/25/2008 1350
Date Received: 11/26/2008 0848

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3520C
Dilution: 1.0
Date Analyzed: 12/05/2008 1518
Date Prepared: 11/28/2008 1331

Analysis Batch: 680-124764
Prep Batch: 680-123965

Instrument ID: GC/MS SemiVolatiles - G
Lab File ID: g4407.d
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.4	U	9.4
2,4-Dichlorophenol	9.4	U	9.4
Nitrobenzene	9.4	U	9.4
Pentachlorophenol	47	U	47
2,4,6-Trichlorophenol	30		9.4
1-Chloro-3-nitrobenzene	9.4	U	9.4
2-Nitrobiphenyl	17		9.4
3-Nitrobiphenyl	9.4	U	9.4
3,4-Dichloronitrobenzene	9.4	U	9.4
4-Nitrobiphenyl	9.4	U "J"	9.4
2-chloronitrobenzene / 4-chloronitrobenzene	56		19
1-chloro-2,4-dinitrobenzene	15		9.4

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	62	50 - 113
2-Fluorophenol	53	36 - 110
Nitrobenzene-d5	65	45 - 112
Phenol-d5	55	38 - 116
Terphenyl-d14	32	10 - 121
2,4,6-Tribromophenol	76	40 - 139

Analytical Data

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-31A-1108-AD**

Lab Sample ID: 680-42643-5
Client Matrix: Water

Date Sampled: 11/25/2008 1350
Date Received: 11/26/2008 0848

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3520C
Dilution: 1.0
Date Analyzed: 12/05/2008 1541
Date Prepared: 11/28/2008 1331

Analysis Batch: 680-124764
Prep Batch: 680-123965

Instrument ID: GC/MS SemiVolatiles - G
Lab File ID: g4408.d
Initial Weight/Volume: 1060 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.4	U	9.4
2,4-Dichlorophenol	9.4	U	9.4
Nitrobenzene	9.4	U	9.4
Pentachlorophenol	47	U	47
2,4,6-Trichlorophenol	29		9.4
1-Chloro-3-nitrobenzene	9.4	U	9.4
2-Nitrobiphenyl	16		9.4
3-Nitrobiphenyl	9.4	U	9.4
3,4-Dichloronitrobenzene	9.4	U	9.4
4-Nitrobiphenyl	9.4	U	9.4
2-chloronitrobenzene / 4-chloronitrobenzene	58	"J"	19
1-chloro-2,4-dinitrobenzene	16		9.4

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	63	50 - 113
2-Fluorophenol	49	36 - 110
Nitrobenzene-d5	64	45 - 112
Phenol-d5	50	38 - 116
Terphenyl-d14	40	10 - 121
2,4,6-Tribromophenol	80	40 - 139

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-58A-1108**

Lab Sample ID: 680-42643-1
Client Matrix: Water

Date Sampled: 11/25/2008 1030
Date Received: 11/26/2008 0848

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1125
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12031.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	6.4		0.19

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-31A-1108**

Lab Sample ID: 680-42643-3
Client Matrix: Water

Date Sampled: 11/25/2008 1350
Date Received: 11/26/2008 0848

RSK-175 Dissolved Gases (GC)

Method: RSK-175
Preparation: N/A
Dilution: 1.0
Date Analyzed: 12/04/2008 1138
Date Prepared: N/A

Analysis Batch: 680-124521

Instrument ID: GC Volatiles - U FID
Lab File ID: U12032.D
Initial Weight/Volume: 1000 uL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Methane	6.4		0.19

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-58A-1108**

Lab Sample ID:	680-42643-1	Date Sampled:	11/25/2008 1030
Client Matrix:	Water	Date Received:	11/26/2008 0848

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124827	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124345	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/09/2008 0126		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1727			

Analyte	Result (mg/L)	Qualifier	RL
Iron	0.35		0.050
Manganese	1.4		0.010

Analytical Data

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-58A-F-1108**

Lab Sample ID:	680-42643-2	Date Sampled:	11/25/2008 1030
Client Matrix:	Water	Date Received:	11/26/2008 0848

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124827	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124345	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/09/2008 0151		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1727			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	0.058		0.050
Manganese, Dissolved	1.5		0.010

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-31A-1108**

Lab Sample ID:	680-42643-3	Date Sampled:	11/25/2008 1350
Client Matrix:	Water	Date Received:	11/26/2008 0848

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-124827	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124345	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/09/2008 0216		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1727			

Analyte	Result (mg/L)	Qualifier	RL
Iron	2.4		0.050
Manganese	1.0		0.010

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Client Sample ID: **GM-31A-F-1108**

Lab Sample ID:	680-42643-4	Date Sampled:	11/25/2008 1350
Client Matrix:	Water	Date Received:	11/26/2008 0848

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-124827	Instrument ID:	ICP/AES - D
Preparation:	3005A	Prep Batch: 680-124345	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	12/09/2008 0221		Final Weight/Volume:	50 mL
Date Prepared:	12/03/2008 1727			

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	0.050	U	0.050
Manganese, Dissolved	1.2		0.010

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

General Chemistry

Client Sample ID: **GM-58A-1108**

Lab Sample ID: 680-42643-1
Client Matrix: Water

Date Sampled: 11/25/2008 1030
Date Received: 11/26/2008 0848

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	100	"J"	mg/L	2.0	2.0	325.2
	Anly Batch: 680-124148	Date Analyzed	12/01/2008 1356			
Nitrate as N	0.65		mg/L	0.050	1.0	353.2
	Anly Batch: 680-124259	Date Analyzed	11/26/2008 1532			
Sulfate	150		mg/L	25	5.0	375.4
	Anly Batch: 680-124444	Date Analyzed	12/04/2008 1415			
Total Organic Carbon	3.6		mg/L	1.0	1.0	415.1
	Anly Batch: 680-124401	Date Analyzed	12/03/2008 1245			

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	530		mg/L	1.0	1.0	310.1
	Anly Batch: 680-123897	Date Analyzed	11/26/2008 1147			
Carbon Dioxide, Free	58		mg/L	4.0	1.0	310.1
	Anly Batch: 680-123897	Date Analyzed	11/26/2008 1147			

Client Sample ID: **GM-58A-F-1108**

Lab Sample ID: 680-42643-2
Client Matrix: Water

Date Sampled: 11/25/2008 1030
Date Received: 11/26/2008 0848

Analyte	Result	Qual	Units	RL	Dil	Method
Dissolved Organic Carbon-D	2.6		mg/L	1.0	1.0	415.1
	Anly Batch: 680-124682	Date Analyzed	12/05/2008 0959			

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

General Chemistry

Client Sample ID: **GM-31A-1108**

Lab Sample ID: 680-42643-3
Client Matrix: Water

Date Sampled: 11/25/2008 1350
Date Received: 11/26/2008 0848

Analyte	Result	Qual	Units		RL	Dil	Method
Chloride	46		mg/L		1.0	1.0	325.2
	Anly Batch: 680-124148		Date Analyzed	12/01/2008 1346			
Nitrate as N	7.2		mg/L		1.0	20	353.2
	Anly Batch: 680-124259		Date Analyzed	11/26/2008 1532			
Sulfate	91		mg/L		25	5.0	375.4
	Anly Batch: 680-124444		Date Analyzed	12/04/2008 1417			
Total Organic Carbon	3.4		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124401		Date Analyzed	12/03/2008 1406			

Analyte	Result	Qual	Units		RL	Dil	Method
Alkalinity	520		mg/L		1.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1156			
Carbon Dioxide, Free	51		mg/L		4.0	1.0	310.1
	Anly Batch: 680-123897		Date Analyzed	11/26/2008 1156			

Client Sample ID: **GM-31A-F-1108**

Lab Sample ID: 680-42643-4
Client Matrix: Water

Date Sampled: 11/25/2008 1350
Date Received: 11/26/2008 0848

Analyte	Result	Qual	Units		RL	Dil	Method
Dissolved Organic Carbon-D	2.9		mg/L		1.0	1.0	415.1
	Anly Batch: 680-124682		Date Analyzed	12/05/2008 0959			

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-42643-1
Sdg Number: KOM02

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
	*	LCS or LCSD exceeds the control limits
	F	MS or MSD exceeds the control limits
	F	RPD of the MS and MSD exceeds the control limits
	X	Surrogate exceeds the control limits
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
Metals		
	U	Indicates the analyte was analyzed for but not detected.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
	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.

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1013536

Solutia – 363

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<gmrina@solutia.com>
02/11/2009 05:06 PM

To Kenneth Bardo/R5/USEPA/US@EPA
cc
bcc

Subject Solutia, Sauget, IL - Response to US EPA Comment on Revised SVE Work Plan

As promised in my February 5 e-mail responding to US EPA's comments on soil vapor extraction (SVE) delineation objectives, following is Solutia's response to the attached subject comment.

The pilot test data evaluation report will discuss the extent and treatment of LNAPL in the test area. Observations made during baseline soil sampling completed February 2 suggest that soils with pores containing LNAPL do exist. Should soil sampling during pilot testing demonstrate that areas of LNAPL may not be effectively treated by the SVE system, high-vacuum SVE testing will be performed during the final two weeks of the pilot program.

If a high-vacuum SVE test is deemed necessary, the high-vacuum system to be applied to the clay layer will be shut down two weeks prior to the program completion. The high-vacuum pump and associated piping will be reconfigured to extract from the well that is determined to be screened within or closest to a LNAPL pocket. The high-vacuum test will be run for the final two weeks of the pilot program to collect data on its effectiveness in removing LNAPL.

The pilot test data evaluation report will discuss the effectiveness of the SVE system in treating any LNAPL pockets and, if tested, the benefits of the high-vacuum SVE system. If appropriate, the pilot test data evaluation report will discuss alternatives to SVE or high-vacuum SVE for addressing LNAPL.

G. M. (Jerry) Rinaldi - 2N
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8957
E-mail gmrina@solutia.com

-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Thursday, January 08, 2009 1:32 PM
To: Rinaldi, Gerald M
Subject: Revised SVE Work Plan

Jerry - Attached is a comment we have on the revised SVE Work Plan submitted on December 15, 2008. We can discuss it this afternoon if necessary. Ken

(See attached file: Solutia Revised SVE Work Plan Comment.doc)

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Solutia Revised SVE Work Plan Comment.doc

Solutia – 364

SOLUTIA

Solutions for a better life

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St. Louis, Missouri 63166-6760
Tel 314-674-1000

February 13, 2009

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

VIA E-MAIL

Re: PCBs in Soils Update
Solutia Inc., W.G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Pursuant to our January 20, and February 2, 2009, telephone discussions, Solutia is submitting this document to update U.S. EPA on the status of activities associated with delineation of PCBs in soils. This letter summarizes activities conducted following submittal of Solutia's January 14, 2009, *"Results of Investigation for PCBs in Soils and Proposed Remedies"* and receipt of your January 16, 2009, e-mail comments.

Additional Delineation

On January 22, 2009, the proposed soil borings outlined in the January 14 document were installed in the areas of S0609 and S0715. In addition, two soil samples were collected southwest of boring S0609-B-63, along the southern property boundary, at approximately 20 and 40 feet (S0609-B-85 and 80, respectively). Laboratory data for samples collected January 22 indicated the area east/northeast of the S0609 location has been delineated. However, results from S0609-B-85 and 80 indicated additional delineation along the southern property boundary was necessary. Subsequently, on February 2, 2009, three additional soil borings (S0609-B-86, 87, and 88) were installed at approximately 40-foot intervals southwest of S0609-B-80. Boring locations and laboratory results are shown on attached Figures 5 and 6 for S0609 and S0715, respectively. Updated data tables for S0609 and S0715 are also attached.

On January 29, 2009, Solutia received input from U.S. EPA detailing areas for additional focused excavation in the vicinity of S0607 (Figure 3), S0608 and CT-1 (Figure 4), S0609 (Figure 5), and S0715 (Figure 6). Solutia has updated the proposed extent of excavation and paving on attached Figures 1 through 7 based on that input, the most recent sampling, and confirmation of sampling locations.

Off-Site Sampling

Your January 16 e-mail comments requested off-site delineation west of soil borings S0607-B-65 and 66 and south of borings S0715-B-45, 46, 62, and 63. Based on those comments, and the results of additional samples since collected southwest of S0715-B-63, Solutia has initiated discussions with the Illinois Department of Transportation (IDOT) and Union Pacific Railroad (UPRR) to gain access to the Illinois Route 3 right-of-way east, and the UPRR property south, of Solutia's facility. Once access from both entities is secured, an off-site sampling work plan will be prepared and forwarded to U.S. EPA. Per our February 2 discussion, soil samples collected from these areas will be sent for laboratory analysis, not analyzed via immunoassay as originally discussed January 20.

Schedule

Upon completion of off-site delineation, Solutia will provide U.S. EPA the laboratory results as well as an updated remediation plan to address PCBs in soils. As it is unknown when access to these areas will be granted, or if multiple mobilizations will be necessary for off-site delineation, a schedule for completing remedial activities cannot be given at this time. What is clear is that a schedule extension beyond both the February 28, 2009, completion date required by the February 28, 2008, "Final Decision" and the May 28, 2009, date requested in Solutia's March 27, 2008, Work Plan and August 25, 2008, *"Technical Memorandum for Remediation of PCBs in Soils"* is necessary. Please advise how to document U.S. EPA's agreement to a schedule extension in these circumstances.

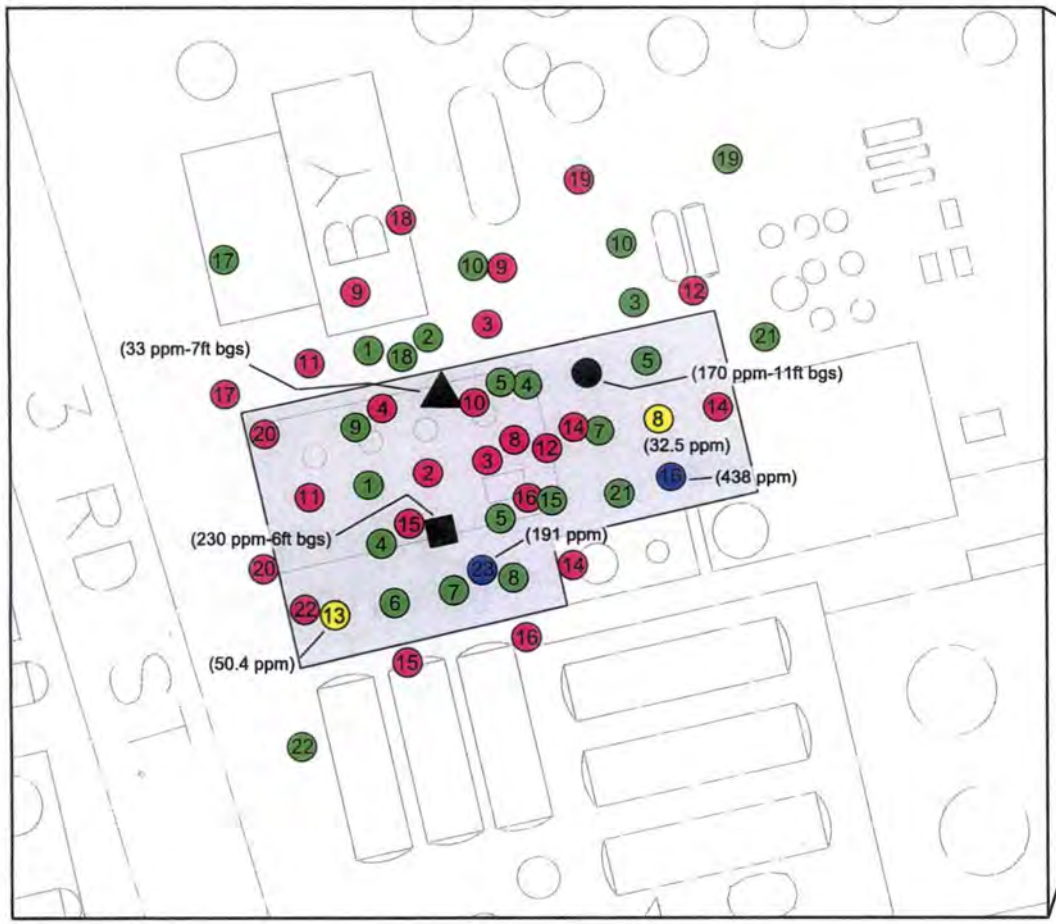
If you have any questions or require additional information, please contact me at (314) 674-3312 or gmrina@solutia.com.

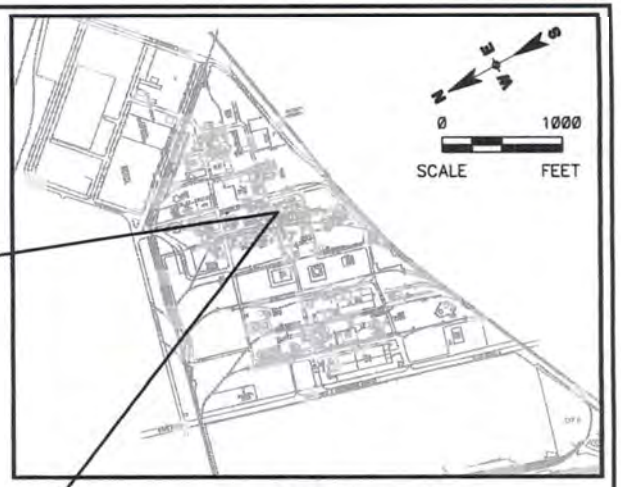
Sincerely,

Gerald M. Rinaldi

Gerald M. Rinaldi
Manager, Remediation Services

Attachments





KEYMAP

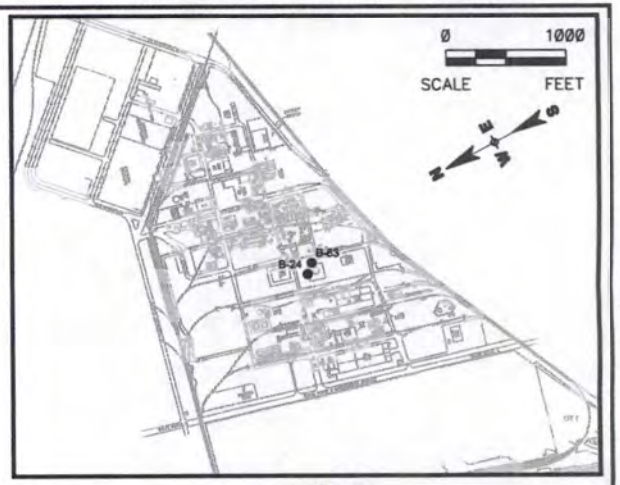
LEGEND

- APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
- B-67 LOCATION
- B-70 LOCATION
- B-71 LOCATION
- LABORATORY RESULT BELOW 25 mg/kg PCBs
- LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
- LABORATORY RESULT ABOVE 100 mg/kg PCBs
- IMMUNOASSAY RESULT BELOW 25 mg/kg PCBs

NOTES:
1. NUMBERS IN SYMBOLS ARE THE SAMPLE I.D.
2. ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.

0 20
SCALE FEET

SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562059
URS	
DRN. BY: djd 2/12/09 DSGN. BY: dp CHKD. BY:	Additional Actions for PCBs Around Spent Carbon Tank
	FIG. NO. 1



KEYMAP

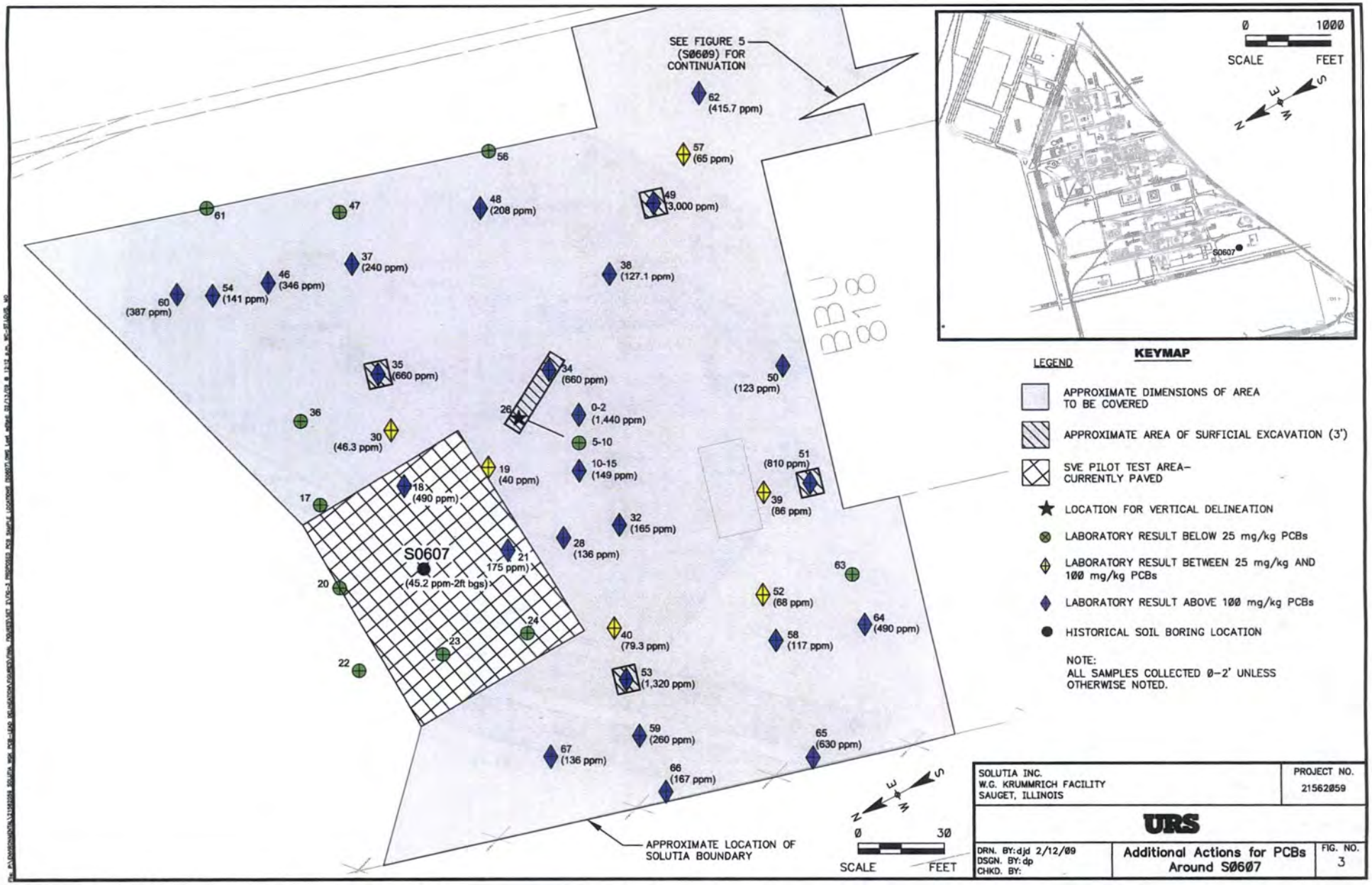
LEGEND

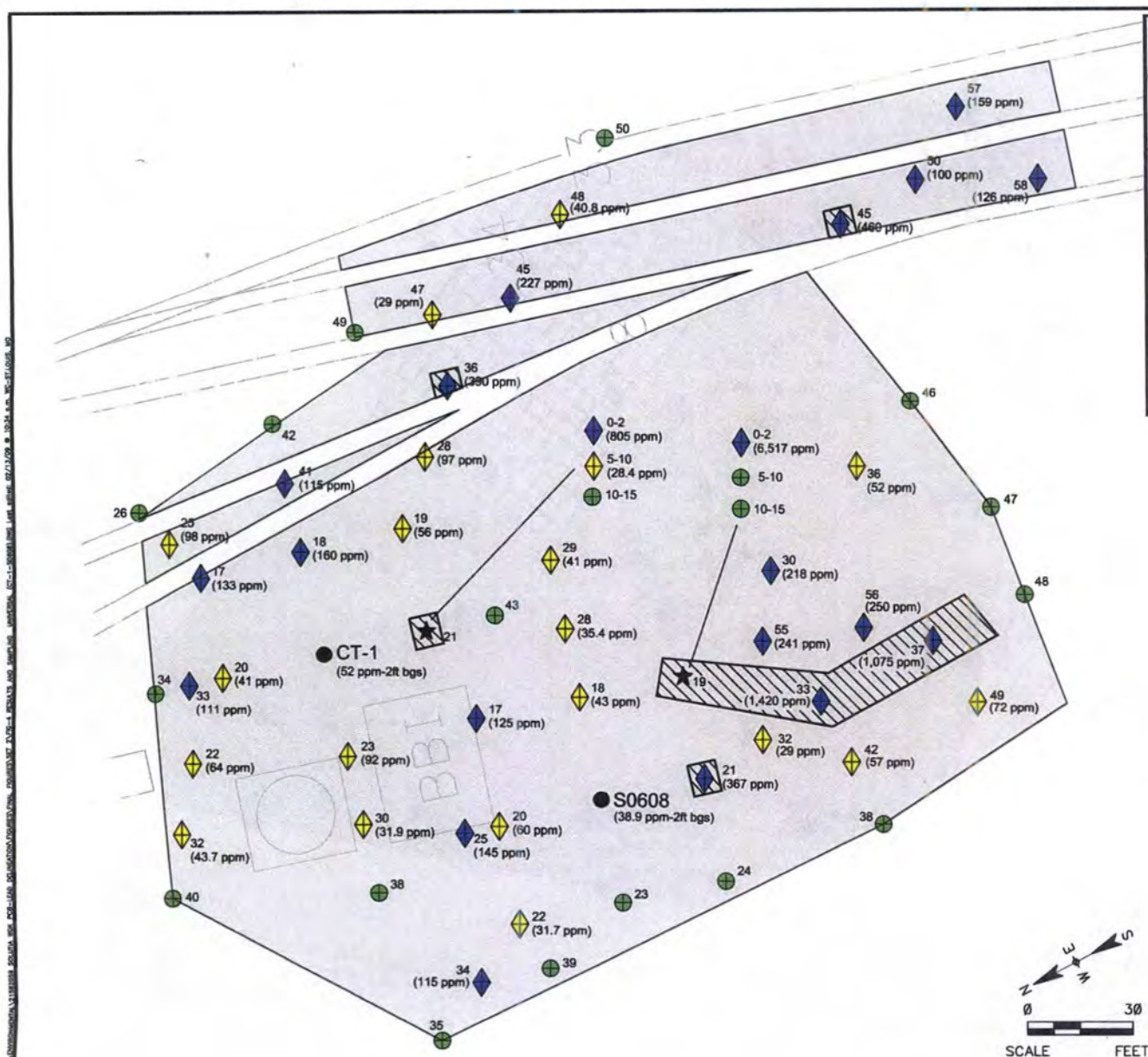
- APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
- APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
- LOCATION FOR VERTICAL DELINEATION
- LABORATORY RESULT BELOW 25 mg/kg PCBs
- LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
- LABORATORY RESULT ABOVE 100 mg/kg PCBs
- HISTORICAL SOIL BORING LOCATION

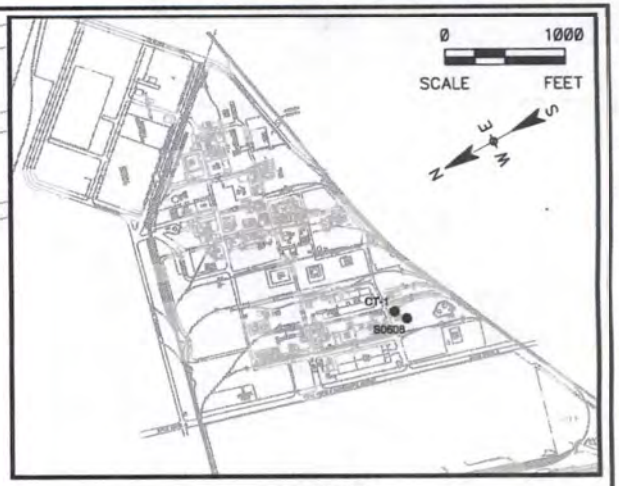
NOTE:
1. SAMPLING RESULTS FROM B-26 (2-4 FOOT) TAKEN FROM HAZARDOUS WASTE UNIT INVESTIGATION (1998).
2. ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.

0 30
SCALE FEET

SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562059
URS	
DRN. BY: djd 2/12/09 DSGN. BY: dp CHKD. BY:	Additional Actions for PCBs Around Former PCB Warehouse
	FIG. NO. 2


SEE FIGURE 5 (S0609) FOR CONTINUATION
62 (415.7 ppm)
57 (65 ppm)
56
61
47
48 (208 ppm)
49 (3,000 ppm)
37 (240 ppm)
38 (127.1 ppm)
46 (346 ppm)
54 (141 ppm)
60 (387 ppm)
35 (660 ppm)
34 (660 ppm)
50 (123 ppm)
36
26
0-2 (1,440 ppm)
5-10
30 (46.3 ppm)
19 (40 ppm)
10-15 (149 ppm)
51 (810 ppm)
18 (490 ppm)
17
39 (86 ppm)
32 (165 ppm)
28 (136 ppm)
S0607
(45.2 ppm-2ft bgs)
21 (175 ppm)
63
20
52 (68 ppm)
24
40 (79.3 ppm)
64 (490 ppm)
58 (117 ppm)
23
22
53 (1,320 ppm)
59 (260 ppm)
65 (630 ppm)
67 (136 ppm)
66 (167 ppm)
BU B18
APPROXIMATE LOCATION OF SOLUTIA BOUNDARY
0 30
SCALE FEET
0 1000
SCALE FEET
S0607
KEYMAP
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
SVE PILOT TEST AREA– CURRENTLY PAVED
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0–2' UNLESS OTHERWISE NOTED.
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562059
URS
DRN. BY: djd 2/12/09
DSGN. BY: dp
CHKD. BY:
Additional Actions for PCBs Around S0607
FIG. NO.
3





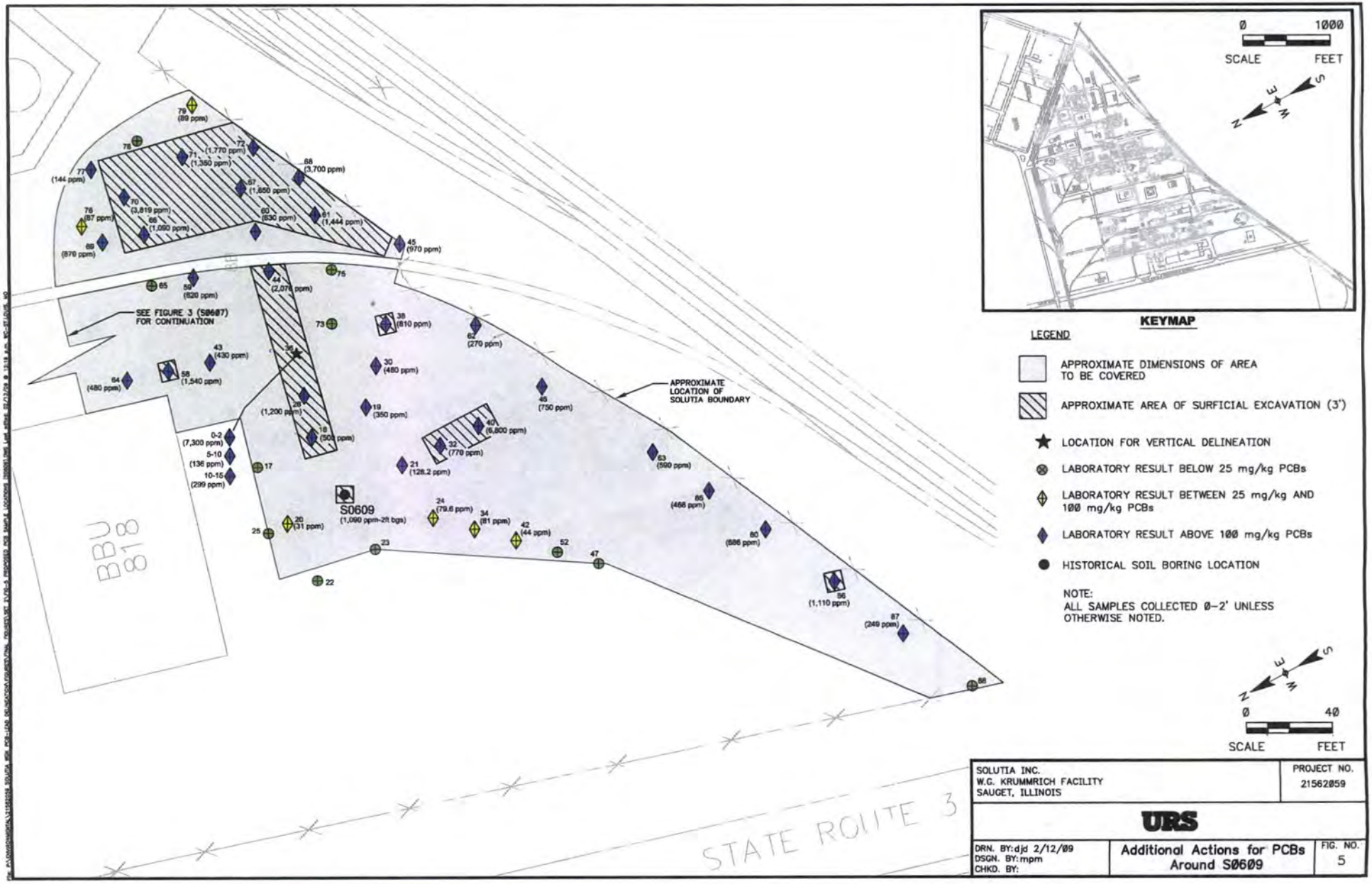
KEYMAP

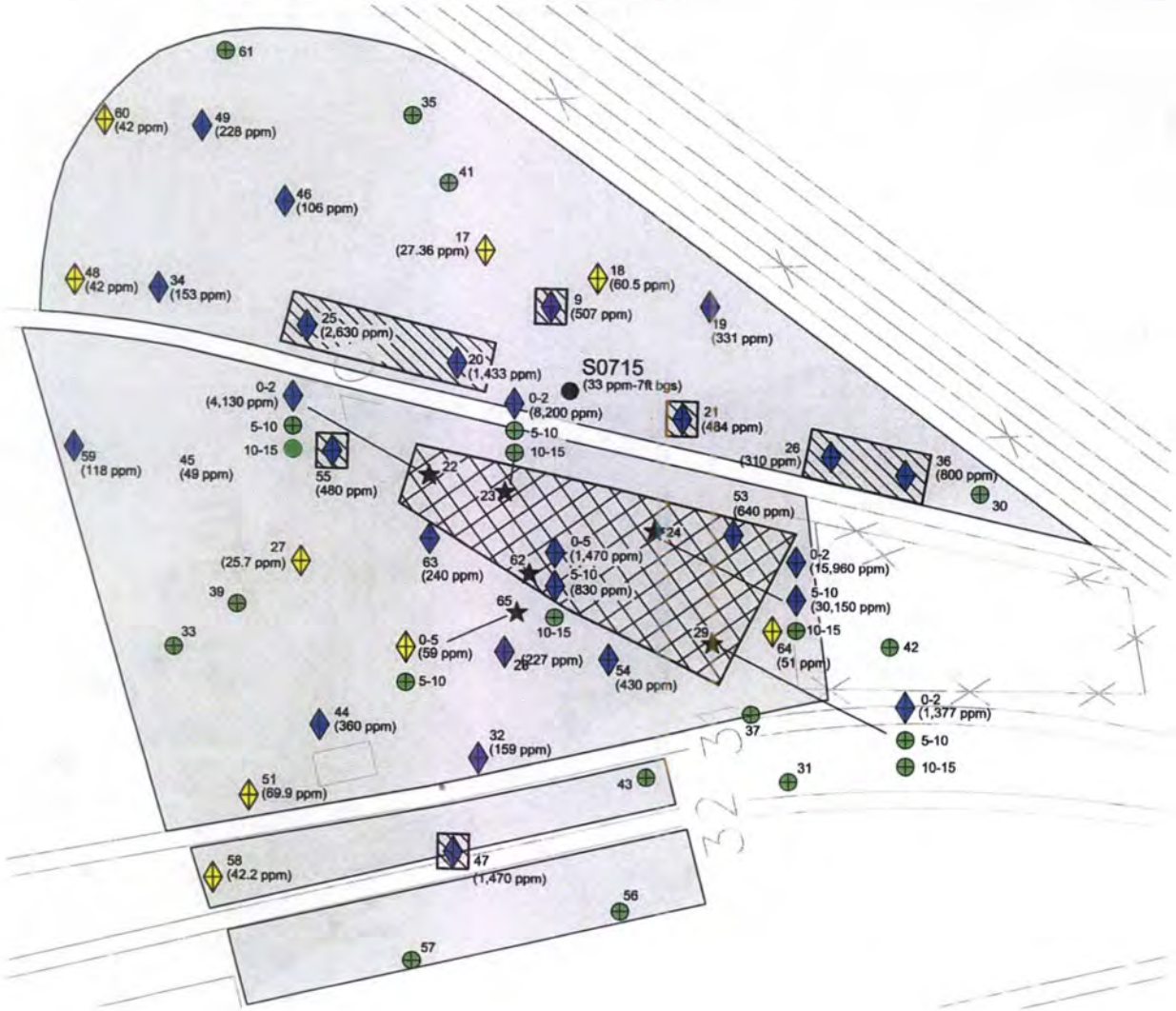
LEGEND

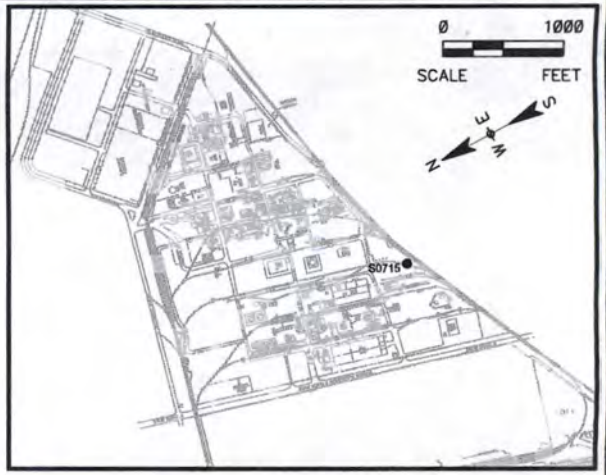
- APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
- APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
- LOCATION FOR VERTICAL DELINEATION
- LABORATORY RESULT BELOW 25 mg/kg PCBs
- LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
- LABORATORY RESULT ABOVE 100 mg/kg PCBs
- HISTORICAL SOIL BORING LOCATION

NOTE:
ALL SAMPLES COLLECTED 0–2' UNLESS OTHERWISE NOTED.

SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562059
URS	
DRN. BY: djd 2/12/09 DSGN. BY: mpm CHKD. BY:	Additional Actions for PCBs Around S0608 & CT-1
	FIG. NO. 4


SEE FIGURE 3 (S0607) FOR CONTINUATION
APPROXIMATE LOCATION OF SOLUTIA BOUNDARY
BBU 818
S0609
(1,090 ppm-2ft bgs)
STATE ROUTE 3
KEYMAP
0 1000
SCALE FEET
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.
0 40
SCALE FEET
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562059
URS
DRN. BY: djd 2/12/09
DSGN. BY: mpm
CHKD. BY:
Additional Actions for PCBs Around S0609
FIG. NO.
5





KEYMAP

LEGEND

- APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
- APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
- APPROXIMATE AREA OF SURFICIAL AND SUBSURFACE EXCAVATION (SEE FIGURE 7)
- ★ LOCATION FOR VERTICAL DELINEATION
- ⊗ LABORATORY RESULT BELOW 25 mg/kg PCBs
- ◈ LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
- ◆ LABORATORY RESULT ABOVE 100 mg/kg PCBs
- ● HISTORICAL SOIL BORING LOCATION

NOTE:
ALL SAMPLES COLLECTED 0–2' UNLESS OTHERWISE NOTED.

SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS		PROJECT NO. 21562059
URS		
DRN. BY: djd 2/12/09 DSGN. BY: dp CHKD. BY:	Additional Actions for PCBs Around S0715	FIG. NO. 6

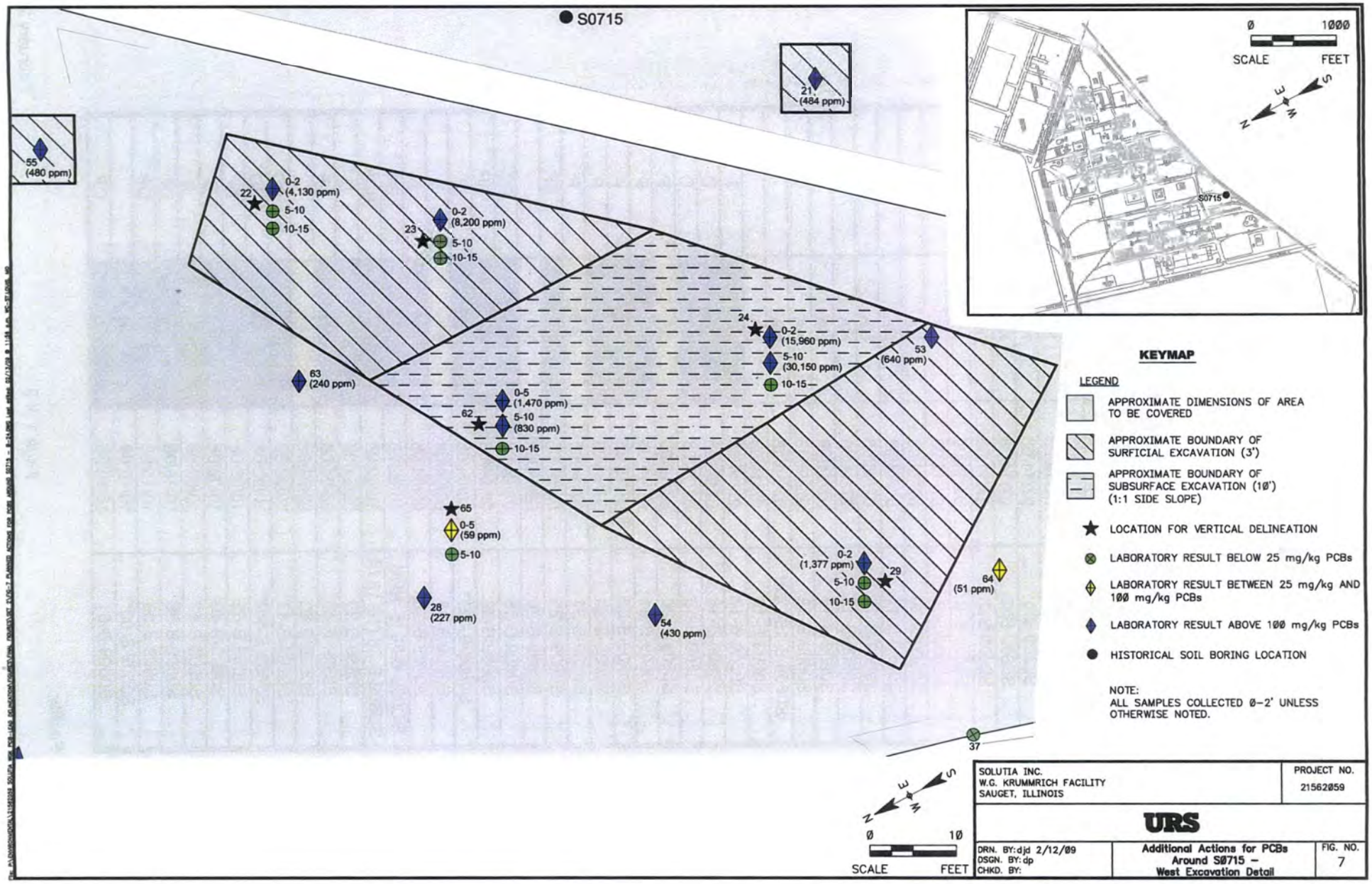

S0715
21
(484 ppm)
55
(480 ppm)
22
0-2
(4,130 ppm)
5-10
10-15
23
0-2
(8,200 ppm)
5-10
10-15
24
0-2
(15,960 ppm)
5-10
(30,150 ppm)
10-15
53
(640 ppm)
63
(240 ppm)
0-5
(1,470 ppm)
62
5-10
(830 ppm)
10-15
65
0-5
(59 ppm)
5-10
0-2
(1,377 ppm)
29
5-10
10-15
64
(51 ppm)
28
(227 ppm)
54
(430 ppm)
37
0
1000
SCALE
FEET
KEYMAP
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE BOUNDARY OF SURFICIAL EXCAVATION (3')
APPROXIMATE BOUNDARY OF SUBSURFACE EXCAVATION (10') (1:1 SIDE SLOPE)
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.
0
10
SCALE
FEET
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562059
URS
DRN. BY: djd 2/12/09
DSGN. BY: dp
CHKD. BY:
Additional Actions for PCBs Around S0715 – West Excavation Detail
FIG. NO.
7

Table 5
PCBs in Soils - Analytical Results for S0609 Area

Sample Location ID	Sample Collected	Lab Result (ppm)	Lab Qualifier
S0609-B-1	07/14/08	NA	
S0609-B-2	07/14/08	NA	
S0609-B-3	07/14/08	NA	
S0609-B-3-DUP	07/14/08	NA	
S0609-B-4	07/14/08	NA	
S0609-B-5	07/14/08	NA	
S0609-B-6	07/14/08	NA	
S0609-B-7	07/14/08	NA	
S0609-B-8	07/14/08	NA	
S0609-B-9	07/14/08	NA	
S0609-B-10	07/14/08	NA	
S0609-B-11	07/14/08	NA	
S0609-B-12	07/14/08	NA	
S0609-B-13	07/14/08	NA	
S0609-B-14	07/14/08	NA	
S0609-B-15	07/14/08	NA	
S0609-B-15-DUP	07/14/08	NA	
S0609-B-16	07/14/08	NA	
S0609-B-17	07/14/08	16.6	P
S0609-B-18	07/14/08	500	D
S0609-B-19	07/14/08	350	D
S0609-B-20	07/14/08	31	P
S0609-B-21	07/14/08	128.2	P
S0609-B-22	07/14/08	13.2	P
S0609-B-23	07/14/08	9.5	P
S0609-B-24	07/14/08	79.6	P
S0609-B-25	08/04/08	20.2	BP
S0609-B-26	08/04/08	NA	
S0609-B-28	08/04/08	1200	BD
S0609-B-30	08/04/08	480	BP
S0609-B-32**	08/04/08	770	B
S0609-B-34	08/04/08	81	B
S0609-B-36	08/04/08	7300	B
SO609-B-36 (5-10 ft)	10/02/08	136	BP
SO609-B-36 (10-15 ft)	10/02/08	299	BDP
S0609-B-38	08/04/08	810	D
S0609-B-40	08/04/08	6800	DP
S0609-B-42	08/04/08	44	
S0609-B-43	10/02/08	430	BD
S0609-B-44**	10/02/08	2076	BD
S0609-B-45	10/02/08	970	BP
S0609-B-46	10/02/08	750	B
S0609-B-47	10/02/08	8.9	B
S0609-B-58	10/16/08	1540	DP
S0609-B-59	10/16/08	620	DP
S0609-B-60**	10/16/08	630	
S0609-B-61	10/16/08	1444	DP

Table 5 (continued)
PCBs in Soils - Analytical Results for S0609 Area

Sample Location ID	Sample Collected	Lab Result (ppm)	Lab Qualifier
S0609-B-62	10/16/08	270	P
S0609-B-63**	10/16/08	590	D
S0609-B-64	10/16/08	480	P
S0609-B-65	10/16/08	22.8	
S0609-B-66	10/16/08	1090	P
S0609-B-67	10/16/08	1650	
S0609-B-68	10/16/08	3700	P
S0609-B-69	12/01/08	870	DP
S0609-B-70	12/01/08	3819	DP
S0609-B-71	12/01/08	1350	DP
S0609-B-72	12/01/08	1770	DP
S0609-B-73	01/22/09	3.37	D
S0609-B-75	01/22/09	0.32	
S0609-B-76	01/22/09	87	D
S0609-B-77**	01/22/09	144	DP
S0609-B-78	01/22/09	8.69	JP
S0609-B-79	01/22/09	89	DP
S0609-B-80	01/22/09	686	DEP
S0609-B-85	01/22/09	468	P
S0609-B-86	02/02/09	1110	DP
S0609-B-87	02/02/09	249	DJP
S0609-B-88	02/02/09	1.11	

NOTES

1. Green highlight indicates result below 25 mg/kg.
2. Yellow highlight indicates result between 25 mg/kg and 100 mg/kg.
3. Blue highlight indicates result above 100 mg/kg.
4. NA indicates sample was not analyzed at the laboratory.
5. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

D = Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds at a dilution may be flagged with a D.

E = Result exceeded calibration range, secondary dilution required.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

P = The lower of two values is reported when the % difference between the results of two GC columns is greater than 40%

Table 6
PCBs in Soils - Analytical Results for S0715 Area

Sample Location ID	Sample Collected	Lab Result (ppm)	Lab Qualifier
S0715-B-1	07/16/08	NA	
S0715-B-2	07/16/08	NA	
S0715-B-3	07/16/08	NA	
S0715-B-4	07/16/08	NA	
S0715-B-4-DUP	07/16/08	NA	
S0715-B-5	07/16/08	NA	
S0715-B-6	07/16/08	NA	
S0715-B-7	07/16/08	NA	
S0715-B-8	07/16/08	NA	
S0715-B-9**	07/16/08	507	DEP
S0715-B-10	07/16/08	NA	
S0715-B-11	07/16/08	NA	
S0715-B-12	07/16/08	NA	
S0715-B-13	07/16/08	NA	
S0715-B-14	07/16/08	NA	
S0715-B-15	07/16/08	NA	
S0715-B-16	07/16/08	NA	
S0715-B-17	07/16/08	27.36	DP
S0715-B-18	07/16/08	60.5	DP
S0715-B-19	07/21/08	331	D
S0715-B-20	07/16/08	1433	J
S0715-B-21	07/16/08	484	DP
S0715-B-22	07/16/08	4130	DJ
S0715-B-22 (5-10 ft)	12/01/08	0.95	P
S0715-B-22 (10-15 ft)	12/01/08	0.26	P
S0715-B-23	07/16/08	8200	D
S0715-B-23 (5-10 ft)**	12/01/08	5.24	DP
S0715-B-23 (10-15 ft)	12/01/08	0.188	P
S0715-B-24	07/16/08	15960	DP
S0715-B-24 (5-10 ft)**	10/01/08	30150	BDP*
S0715-B-24 (10-15 ft)	10/01/08	19.4	B*
S0715-B-25	08/05/08	2630	DP
S0715-B-26	08/05/08	310	P
S0715-B-27	08/05/08	25.7	
S0715-B-28	08/05/08	227	DP
S0715-B-29	08/05/08	1377	DP
S0715-B-29 (5-10 ft)	12/01/08	0.161	P
S0715-B-29 (10-15 ft)	12/01/08	0.42	P
S0715-B-30	10/01/08	0.93	P
S0715-B-31	10/01/08	1.23	
S0715-B-32	10/01/08	159	
S0715-B-33	10/01/08	17.2	P
S0715-B-34**	10/01/08	153	
S0715-B-35	10/01/08	0.97	P
S0715-B-36	10/01/08	800	P
S0715-B-37	10/01/08	1.99	

Table 6 (continued)
PCBs in Soils - Analytical Results for S0715 Area

Sample Location ID	Sample Collected	Lab Result (ppm)	Lab Qualifier
S0715-B-39	10/01/08	20.7	P
S0715-B-41	10/01/08	21.4	
S0715-B-42	10/01/08	5.3	
S0715-B-43	10/01/08	0.048	
S0715-B-44	10/01/08	360	P
S0715-B-45	10/01/08	49	P
S0715-B-46	10/01/08	106	P
S0715-B-47**	10/16/08	1470	DP
S0715-B-48	10/16/08	42	P
S0715-B-49	10/16/08	228	DP
S0715-B-51	10/16/08	69.9	DP
S0715-B-53**	12/01/08	640	P
S0715-B-54	12/01/08	430	P
S0715-B-55	12/01/08	480	P
S0715-B-56	12/01/08	0.215	P
S0715-B-57	12/01/08	4.8	P
S0715-B-58	12/01/08	42.2	DP
S0715-B-59	12/01/08	118	DP
S0715-B-60	12/01/08	42	DP
S0715-B-61	12/01/08	8.1	P
S0715-B-62 (0-5 ft)	12/01/08	1470	P
S0715-B-62 (5-10 ft)	12/01/08	830	
S0715-B-62 (10-15 ft)	12/01/08	2.42	DP
S0715-B-63	01/22/09	240	D
S0715-B-64	01/22/09	51	D
S0715-B-65 (0-5 ft)**	01/22/09	59	D
S0715-B-65 (5-10 ft)	01/22/09	2.5	

NOTES

1. Green highlight indicates result below 25 mg/kg.
2. Yellow highlight indicates result between 25 mg/kg and 100 mg/kg.
3. Blue highlight indicates result above 100 mg/kg.
4. NA indicates sample was not analyzed at the laboratory.
5. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

D = Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds at a dilution may be flagged with a D.

E = Result exceeded calibration range, secondary dilution required.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

P = The lower of two values is reported when the % difference between the results of two GC columns is greater than 40%

* = LCS or LCSD exceeds control limits

Solutia – 365

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

February 20, 2009

REPLY TO THE ATTENTION OF LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Response to Solutia Updates on Remediation of PCBs in Soil
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

The February 2008, Final Decision requires Solutia to remediate PCB contamination in soil at certain areas at the Former PCB Warehouse, North Tank Farm, Former Spent Carbon Tank, Parcel 8, and the Former Chlorobenzene and Benzene Storage Area at the W.G. Krummrich Plant. Implementation of the remedy and construction is required to be completed by February 28, 2009.

A workplan to remediate PCB contamination in soil was submitted and approved by EPA on April 10, 2008. Since that time, Solutia has undertaken a comprehensive effort to delineate the extent of PCB contamination in soil. On August 25, 2008, Solutia submitted the *Technical Memorandum for Remediation of PCBs in Soil.* The memorandum detailed the need for additional characterization and requested a three-month time extension to construct the remedy since the proposed asphalt covers could not be installed during the colder months. A supplemental workplan to fully delineate the extent of PCBs in soil was provided in September and implemented in October. Further characterizations were conducted in December 2008.

On January 14, 2009, Solutia submitted an update on the results of the investigations. A combination of excavations and 6-inch asphalt covers were proposed to remediate the PCB contamination in soil. Solutia also proposed additional sampling to complete characterizations in two areas and again requested a three-month time extension to construct the remedy. EPA provided comments on January 19, 2009, and requested that Solutia conduct further characterization just off-site at Illinois Route 3 and also along a rail line.

Solutia provided supplemental results for the on-site investigations on February 13, 2009, including the extent of PCB contamination in soil for all areas, the areas proposed for surficial excavation down to 3-feet, the one area proposed for subsurface excavation down to 10-feet, and

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the areas to be covered with a 6-inch layer of asphalt. Solutia also agreed to pursue access agreements with the Illinois Department of Transportation (IDOT) and Union Pacific Railroad for conducting off-site sampling, and again requested a time extension in excess of three months to complete off-site sampling and construct the remedy.

At this time, Solutia's effort to delineate the extent of PCB contamination in soil on-site is nearly complete and additional work is required off-site. EPA agrees that additional time is necessary to complete the PCB remediation project required by the Final Decision. Discussion is presented below on the scope of the remediation project, additional characterization to be completed, and schedule for completing the work.

Spent Carbon Tank

EPA agrees with the proposed approximate dimensions of the 6-inch asphalt cover to be placed in the area of the Spent Carbon Tank depicted in Figure 1 of the January 14, 2009, submittal update.

Former PCB Warehouse

EPA agrees with the approximate area of surficial excavation down to 3-feet, backfilling the area with clean soil to grade, and the proposed approximate dimension of the 6-inch asphalt cover depicted in Figure 2 of the February 13, 2009, submittal update. The surficial excavation will reduce the average PCB concentration in surficial soil at the Former PCB Warehouse from 519 ppm to 77 ppm. EPA estimates that approximately 50 cubic yards of PCB-contaminated soil will be excavated and disposed off-site.

Soil Boring Location S0607

EPA agrees with the five areas of surficial excavation down to 3-feet depicted in Figure 3 of the February 13, 2009, submittal update with the following modification; extend and connect the excavation from locations 26 and 34, to 35. In the alternative, collect and analyze two equidistant surficial samples between the two proposed excavations and re-evaluate the need to excavate this intermediate area, subject to EPA approval. The excavations around individual sample locations shall be a minimum 10-foot square. At sample locations 26 and 34, the minimum excavation shall be 10-feet wide and 30-feet long. EPA agrees with backfilling the areas with clean soil to grade, and the proposed approximate dimension of the 6-inch asphalt cover depicted in Figure 3 of the February 13, 2009, submittal update. The surficial excavations will reduce the average PCB concentration in surficial soil in the vicinity of S0607 from 336 ppm to 158 ppm. EPA estimates that a minimum of approximately 78 cubic yards of PCB-contaminated soil will be excavated and disposed off-site.

Excavation of surface soil and paving the area with asphalt should be coordinated with the SVE pilot study and SVE full-scale implementation so as not to interfere with each other or

complicate their individual implementation requirements. The presence of PCBs in soil also needs to be considered in the health and safety plan, and in the proper disposal of waste generated from the SVE remediation project.

Soil Boring Locations S0608 and CT-1

EPA agrees with the five areas of surficial excavation down to 3-feet, backfilling the area with clean soil to grade, and the proposed approximate dimension of the 6-inch asphalt cover depicted in Figure 4 of the February 13, 2009, submittal update. The excavations around individual sample locations shall be a minimum 10-foot square. At sample locations 19, 33, and 37, the irregular polygon excavation shall encompass all three sample locations and have a perimeter that extends a minimum of 7.5-feet in each direction beyond each sample location. The surficial excavations will reduce the average PCB concentration in surficial soil in the vicinity of S0608 and CT-1 from 262 ppm to 71 ppm. EPA estimates that approximately 207 cubic yards of PCB-contaminated soil will be excavated and disposed off-site.

Soil Boring Location S0609

EPA agrees with the six areas of surficial excavation down to 3-feet, backfilling the area with clean soil to grade, and the proposed approximate dimension of the 6-inch asphalt cover depicted in Figure 5 of the February 13, 2009, submittal update with the following modification; collect two surficial samples, located on a transect extending from locations 66 and 69 and paralleling the RR tracks, at 40 and 60-feet north of sample location 69. Analyze at least the 40-foot distant sample and re-evaluate the appropriateness of the extent of the surficial excavation and 6-inch asphalt cover, subject to EPA approval. The excavations around individual sample locations shall be a minimum 10-foot square. At sample locations 44, 36, 28, and 18, the minimum excavation shall be 15-feet wide and 90-feet long. The large, irregular polygon excavation east of the RR tracks is estimated to have a northern width of 45-feet, eastern length of 70-feet extending to the property fenceline, southern width of 100-feet along the property fenceline, and a western total length of 130-feet.

The surficial excavations will reduce the average PCB concentration in surficial soil in the vicinity of S0609 from 972 ppm to 278 ppm. Since the area in the vicinity of S0609 will have average PCB concentrations remaining in surface soil somewhat above 100 ppm, Solutia shall propose the posting of a sufficient number of signs in easily visible locations that provide notice of PCB contamination. EPA estimates that a minimum of approximately 707 cubic yards of PCB-contaminated soil will be excavated and disposed off-site.

Soil Boring Location S0715

EPA agrees with the seven areas of surficial excavation down to 3-feet depicted in Figure 6 of the February 13, 2009, submittal update with the following modifications: extend and connect the excavation from locations 25 and 20, to 9; from locations 36 and 26, to 21; and from

locations 23 and 22, to 55. In the alternative, collect and analyze a sample at the mid-point of the excavations and re-evaluate the need to excavate this intermediate area, subject to EPA approval. The excavations around individual sample locations shall be a minimum 10-foot square. At sample locations 25 and 20, the minimum excavation shall be 15-feet wide and 55-feet long. At sample locations 26 and 36, the minimum excavation shall be 10-feet wide and 30-feet long. The large, roughly trapezoid excavation comprises an area of approximately 2,925 square feet. EPA agrees with backfilling the areas with clean soil to grade, and the proposed approximate dimension of the 6-inch asphalt cover depicted in Figure 6 of the February 13, 2009, submittal update. The surficial excavations will reduce the average PCB concentration in surficial soil in the vicinity of S0715 from 1,035 ppm to 94 ppm. EPA estimates that a minimum of approximately 495 cubic yards of PCB-contaminated soil will be excavated and disposed off-site.

In addition to surficial excavations, Figure 7 of the February 13, 2009, submittal update proposes to excavate down to 10-feet within the middle of the large, roughly trapezoid area. The area of deeper excavation is approximately 1,135 square feet, comprising an additional excavation of approximately 295 cubic yards. It is EPA's understanding that the deep excavation will be to 10-feet throughout the area depicted in Figure 7. If a 1:1 side slope is used to complete the excavation, the deep excavation must start 10-feet out from the deep excavation boundary. This approach is necessary to adequately remediate deep subsurface soil at sample locations 24 and 62.

Excavation of PCB-contaminated Soil

EPA estimates the total volume of soil contaminated with PCBs to be excavated and disposed off-site is a minimum of 1,832 cubic yards.

Off-site Sampling

EPA agrees with the approach presented by Solutia in the February 13, 2009, submittal update to complete off-site delineation west of soil borings S0607-B-65 and B-66. This is IDOT property located along Illinois Route 3. It should be noted that off-site delineation south of soil boring S0609 would be along the entire fenceline, extending from the proposed excavation area between borings B-79 and B-72, westward to an area between borings B-87 and B-88. This is Union Pacific Railroad property. The Administrative Consent Order (Section VII) requires that Solutia use its best efforts to obtain access agreements necessary to complete the work within 60 days of the date that the need for access became known to Solutia. EPA first notified Solutia of the need for off-site sampling and delineation in a January 16, 2009, e-mail.

EPA has evaluated historical aerial photographs and may have useful information to assist Solutia in the off-site sampling program. EPA will provide that information in a subsequent e-mail, or at the latest, as a response to Solutia's off-site sampling workplan.

Schedule Extension

The delineation of PCB contamination in soil at the W.G. Krummrich Plant has been more complicated than initially expected, based on the RFI data presented in the Final Decision. Solutia has conducted an iterative investigation to complete the project and EPA acknowledges the need for additional time as requested by Solutia.

At this time, the EPA Project Manager agrees to a three-month time extension to implement the remedy for PCBs in soil and complete construction. The new due date is May 28, 2009. EPA recognizes that additional time is likely beyond three months to complete the on-site and off-site characterization, excavate soil, and lay an asphalt cover. The goal for Solutia during this three-month time extension is to complete the on-site characterization, obtain the necessary access agreements, submit and implement an off-site sampling workplan, complete off-site characterization, and delineate the final on-site remediation areas (and any off-site areas, if necessary). By May 28, 2009, Solutia and EPA should have a good understanding of the scope of the remediation project and be able to mutually agree to the final timeframe for completing construction, certifying that remediation objectives have been attained, and submitting the Construction Completion Report and O&M Plan, as required by the Final Decision.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo, EPA Project Manager
Corrective Action Section

cc: Jim Moore, Illinois EPA

Solutia – 366

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

February 23, 2009

REPLY TO THE ATTENTION OF: LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Aerial Photograph Interpretation for Off-site Sampling of PCBs in Soil
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

In a February 20, 2009, letter, EPA agreed with the approach presented by Solutia in its February 13, 2009, letter update for completing off-site delineation sampling on IDOT and Union Pacific Railroad property near the southwest corner of the W.G. Krummrich Plant. We stated in our letter that historical aerial photographs were evaluated and could provide useful information to assist Solutia in its off-site sampling program. EPA's interpretations of aerial photographs dating from 1950 to 1988, are provided below.

Since at least June 1950, a large, dark stockpile (probably coal) has been stored at the southwest corner of the W.G. Krummrich Plant in the vicinity of sample locations S0607 (former Big Mo tank area) and S0609 (BBU Building and southwest corner of the industrialized property boundary). The dark material helps identify possible runoff patterns in the area where PCBs are found on-site in surface soil.

Big Mo was a large benzene storage tank installed after July 1950 and before July 1955. In July 1962, an access road from the W.G. Krummrich Plant to Illinois State Route 3 is apparent just north of the diked containment area for Big Mo. The BBU Building is used for the container storage of hazardous waste and was constructed after March 1981 and before November 1984.

Beginning in March 1966, possible runoff of the dark material from the large, dark stockpile is present along the east-side of Illinois State Route 3, just west of the future BBU Building and extending north to the access road just north of the diked containment area for Big Mo. In March 1971, the runoff pathway from the large, dark stockpile area is more readily apparent as possibly noted in 1966. Some minor runoff (appearing as a lobe) may also be present at the southern property boundary toward the railroad tracks.

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In May 1973, the runoff point to the east-side of Route 3 is readily apparent due west of the future BBU Building in the vicinity of sample locations S0706-B-64 and B-65, and southwest corner of the proposed asphalt cover area (see Figure 3 of Solutia's February 13, 2009, letter update).

In November 1984, dark material along Route 3 is the same as noted in the early-1970's and extends from south of the BBU building in the vicinity of the fenceline west of sample location S0609 (see Figure 5 of Solutia's February 13, 2009, letter update) to the Route 3 access road just north of the diked containment area for Big Mo (see enclosed November 1984 aerial photo and blow-up of southwest area). The off-site area at the south fenceline area at the railroad tracks in the vicinity of the railroad spur line at S0609-B-45 and extending southwest to S0609-B-86, appears mottled and disturbed (also see enclosed March 1985 aerial photo and blow-up of southwest area).

In February 1987, the dark stockpile area at the southwest corner of the Krummrich Plant has been mostly removed but remnants are visible. By April 1988, the stockpile is no longer visible. It is not apparent in these photos or those from the 1990's when, or if, the off-site areas discussed above were cleaned or seeded.

Although the dark stockpile is not believed to be associated with PCB contamination identified in on-site soils, the runoff patterns noted from this dark material may be useful in developing an off-site sampling program. Solutia should consider the off-site Route 3 east-side ditch area from west of sample location S0609 to the access road noted north of Big Mo in the sampling program. If necessary, drainage beyond the access road should be investigated. The off-site area at the south fenceline area at the railroad tracks in the vicinity of the railroad spur line at S0609-B-45 and extending southwest to S0609-B-86 should also be considered in the sampling program

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

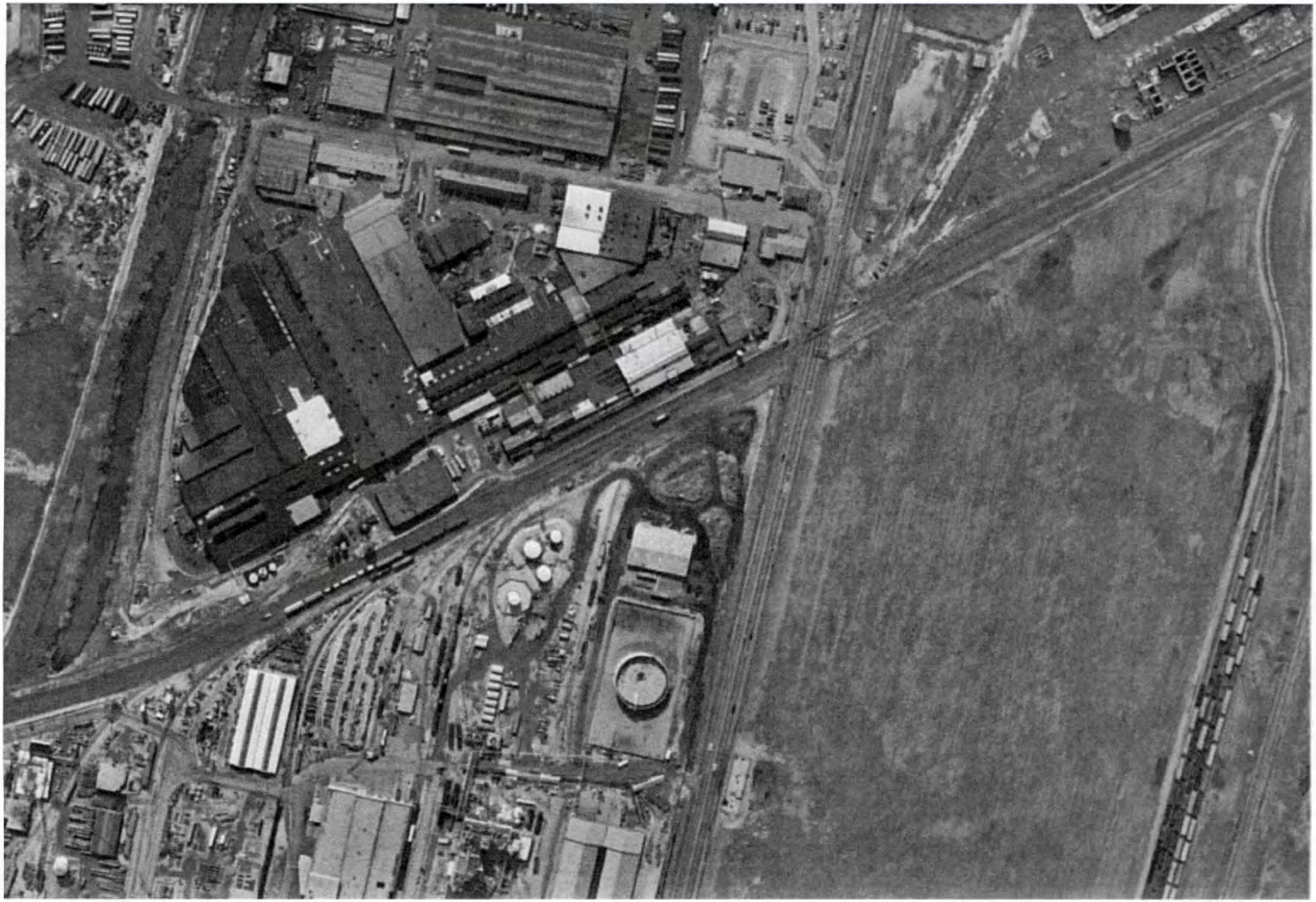
Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo, EPA Project Manager
Corrective Action Section

Enclosures (4 - photos)

cc: Jim Moore, Illinois EPA



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Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

February 27, 2009

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

VIA FEDEX

Re: Construction Completion Report
Remediation of Lead in Soils
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find one paper copy and one CD of the subject report, submitted within one year of and as required by the Final Decision received February 28, 2008.

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

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosures

DISTRIBUTION LIST

Construction Completion Report
Remediation of Lead in Soils
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

US EPA

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Illinois EPA

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* Paper copy and CD
** CD only

CONSTRUCTION COMPLETION REPORT
REMEDIATION OF LEAD IN SOILS AT VARIOUS LOCATIONS
ON THE SOLUTIA W. G. KRUMMRICH PLANT
SAUGET, ILLINOIS

Submitted To:

U.S. Environmental Protection Agency
Region 5
77 West Jackson Blvd.
Chicago, Illinois

February 27, 2009

TABLE OF CONTENTS

Remedy Certification Statement
1. Introduction and Background ..... - 1 -
2. Results And Remedial Actions ..... - 2 -
   2.1 Sample Location S0716 ..... - 2 -
   2.2 Sample Location S0707 ..... - 3 -
   2.3 Sample Location S0717 ..... - 3 -
   2.4 Sample Location S0715 ..... - 4 -
   2.5 Sample Location S0610 ..... - 4 -
   2.6 Sample Location S0703 ..... - 5 -
   2.7 Sample Location S0720 ..... - 5 -
3. Institutional Controls ..... - 5 -
4. Cover Maintenance ..... - 6 -

Table 1 – Lead in Soils – Analytical Results for S0716
Table 2 – Lead in Soils – Analytical Results for S0707
Table 3 – Lead in Soils – Analytical Results for S0717
Table 4 – Lead in Soils – Analytical Results for S0715
Table 5 – Lead in Soils – Analytical Results for S0610
Table 6 – Lead in Soils – Analytical Results for S0703
Table 7 – Lead in Soils – Analytical Results for S0720

Figure 1 – Lead Sample Locations of Concern
Figure 2 – Results of Lead Sampling
Figure 3 – Results of Lead Sampling around S0717
Figure 4 – Results of Lead Sampling around S0720

Attachment A – Scaled Maps and Legal Descriptions
Attachment B – Photographic Log
Attachment C – Inspection Log

Remedy Certification Statement

Facility Name: Solutia Inc. W. G. Krummrich Plant, Sauget, IL

Illinois EPA Identification Number: 16312100006

USEPA Identification Number: ILD000802702

Name of Remediated Unit(s): Lead Remediation Areas

The unit(s) identified above have been remediated in accordance with a plan approved with conditions and modifications by the U.S. Environmental Protection Agency. A report demonstrating that remediation was carried out in accordance with the approved plan, and therefore remediation objectives were attained, is attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G. M. Rinaldi 2/27/09 G. M. Rinaldi, Manager, Remediation

Signature of Project Manager Date Name and Title of Project Manager

Mailing Address of Project Manager:

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

1. Introduction and Background

This document presents the Construction Completion Report (CCR) for remediation of lead in soils in various areas of the Solutia W.G. Krummrich facility in Sauget, Illinois.

The need for the investigation and corrective action was identified in the "Final Decision and Response to Comments for Solutia Inc., Sauget, Illinois, U.S. EPA No. ILD 000 802 702" (Final Decision) that was issued by the U.S. Environmental Protection Agency (U.S. EPA) on February 26, 2008, and received by Solutia on February 28, 2008. That document required the remediation of surface soils (in the depth range of 0 to 2 feet) that contain lead at concentrations in excess of 700 mg/kg. Specifically, the areas of concern identified in the Final Decision are in the vicinity of RCRA Facility Investigation (RFI) sample locations S0716, S0707, S0717, S0715, S0610, S0703, and S0720. The locations of these samples are shown on Figure 1.

A Work Plan that defined the scope of the investigation was prepared and hand-delivered to the U.S. EPA on March 27, 2008, and was approved with comments by letter dated April 10, 2008. The Work Plan was revised to incorporate the Agency's comments, and a final version was submitted on June 20, 2008.

In summary, the initial investigation consisted of soil sampling on a grid pattern surrounding each of the locations of concern. The grid nodes were spaced on 10 foot centers and the grid extended for at least 30 feet on all sides of the location of concern, or until the next known sampling location with a lead concentration less than 700 mg/kg was encountered, whichever came first. Samples were taken over the depth interval of 0 to 2 feet below the base of the existing gravel cover using Direct Push Technology (DPT). All samples were analyzed for lead and analyses were performed in a step-wise manner. The eight closest samples were analyzed first and, if any of the results exceeded 700 mg/kg of lead, then additional samples further away from the location of concern were analyzed. The results of the initial investigation were summarized in the document titled "Technical Memorandum for Remediation of Lead in Soils" which was submitted

to the U.S. EPA by Solutia on August 25, 2008. U.S. EPA provided comments on September 6, 2008. Pursuant to the August 25, 2008, and September 6, 2008, documents, Solutia completed additional delineation in the vicinity of sample locations S0717 and S0720. The results of the initial and subsequent delineation activities (including Tables and Figures showing areas where lead exceeded remedial objectives) were summarized in a November 21, 2008, e-mail submittal to U.S. EPA.

As communicated to U.S. EPA via e-mail on December 9, 2008, the construction of the remedial covers for S0703, S0716, S0717, and S0720 was initiated the week of November 24, 2008, and completed on November 28, 2008. Construction of the remedial covers for S0610 and S0715 was completed on December 8, 2008. The areas where lead exceeded remedial objectives and covers were installed were subsequently surveyed on January 14, 2009, to identify the boundaries that are subject to the engineered barrier requirements including deed restriction. It is noted that the remedial cover for S0715 is temporary as this area is scheduled to be incorporated into subsequent remedial actions for a PCB hot spot at the same location.

2. Results And Remedial Actions

The results of the investigation are presented in Tables 1 through 7 and summarized on Figures 2 through 4. Each of the locations of concern is separately discussed below. The corrective measures in each of the areas were intended to isolate surficial soils (in the depth range of 0 to 2 feet) that contain lead at concentrations in excess of 700 mg/kg.

2.1 Sample Location S0716

Sampling point S0716 is located just off the edge of pre-existing asphalt pavement, immediately adjacent to a railway spur. Given the limited distance between the spur and the edge of the asphalt, the only additional investigation that was required was to define the lateral extent of the cover along the rail siding (north and south of S0716). To obtain that information, samples were taken at 20-foot intervals north and south of S0716. Four

samples were collected on the north side (midway to the next sampling point known to have surficial lead concentrations less than 700 mg/kg, S0706) and a like number were collected on the south side. Four of these samples were analyzed and the results show that lead concentrations in the soil exceed 700 mg/kg in one sample on either side of S0716 (refer to Table 1). Assuming that the 700 mg/kg boundary lies midway between adjacent points with lead concentrations less than and greater than 700 mg/kg, the lateral extent of the area containing lead at a concentration in excess of 700 mg/kg is approximately 60 feet.

As indicated in the "Technical Memorandum for Remediation of Lead in Soils", the corrective action was to extend the asphalt pavement over the impacted area. Per Section 3 - Remedial Objectives and Remedial Alternatives of the Revised Work Plan, the cover consisted of installing 3 inches of asphalt from the present edge of the asphalt to the edge of the rail lines and extended approximately 30 feet on either side of S0716 along the railway line. The area that was covered by asphalt is shown on Figure 2 and in Attachment B - Photographic Log.

2.2 Sample Location S0707

All of the samples surrounding S0707 contained less than 700 mg/kg of lead as shown on Table 2. Consequently, the area of impacted soil is approximately 10 feet square. However, the area was already covered by 4 inches of asphalt and 8 inches of gravel. The cover extends for at least 30 feet on all sides of location of concern and, consequently, no further corrective actions were required at this location. The area covered by asphalt is shown on Figure 2 and in Attachment B - Photographic Log.

2.3 Sample Location S0717

The results of the investigation around this location of concern are presented in Table 3 and summarized on Figure 3. The extent of soils containing lead in excess of 700 mg/kg is approximately 150 ft along the facility boundary up to 50 feet northwards to the limit shown in Figure 3.

The area of concern is in the midst of a number of active railway spur lines and previously covered by approximately 2 inches of gravel. As indicated in the "Technical Memorandum for Remediation of Lead in Soils", the corrective action was to install asphalt pavement over the impacted area. Per Section 3 – Remedial Objectives and Remedial Alternatives of the Revised Work Plan, the cover consisted of installing 3 inches of asphalt along the property fence northwards to the limit shown in Figure 3. The eastern and western limits of the asphalt cover were defined by the additional sampling. The area covered by asphalt is shown in Attachment B - Photographic Log.

2.4 Sample Location S0715

The results of the sampling in this area of concern are presented in Table 4 and summarized on Figure 2. The extent of soils containing lead in excess of 700 mg/kg in this area of concern is approximately 20 feet long and 10 feet wide, as shown on Figure 2. The area was previously covered by 12 inches of gravel. Per Section 3 - Remedial Objectives and Remedial Alternatives of the Revised Work Plan, this existing cover was augmented by adding an extra 12 inches of gravel (CA-6 type rock) so the minimum thickness was 24 inches. The additional gravel was subsequently graded to promote drainage.

2.5 Sample Location S0610

The results of the sampling in this area are presented in Table 5 and summarized on Figure 2. Like sample location S0715, the area of soils containing lead in excess of 700 mg/kg is limited, being approximately 30 feet long and 15 feet wide. It is bounded on the north side by a secondary containment berm for a small storage tank farm and was previously covered by 12 inches of gravel. This cover was augmented by an additional 12 inches of gravel (CA-6 type rock) so the minimum thickness was 24 inches. The additional gravel was subsequently graded to promote drainage.

2.6 Sample Location S0703

Like sample location S0707, all of the samples surrounding S0703 contained less than 700 mg/kg of lead as shown in Table 6 and summarized on Figure 2. Consequently, the area of impacted soil is approximately 10 feet square. The area was previously covered by 2 inches of asphalt. This was augmented by an additional inch of asphalt so the minimum thickness was 3 inches over the 10-foot-square area of concern.

2.7 Sample Location S0720

The results of the sampling in this area are presented in Table 7 and are summarized on Figure 4. The majority of the area with soils containing lead at concentrations greater than 700 mg/kg was already covered by 4 inches of asphalt (everything west of sampling point 31 shown on Figure 4). Consequently, corrective measures were only required in the area previously covered by gravel. In this area, a 3-inch-thick asphalt cover was constructed to the limits shown in Figure 4. Delineation west of S0720-B32, 28, 30, 33, 35 and 38 was not possible because of existing structures (buildings, tanks, containment), but these areas will be subject to the institutional controls and maintenance requirements outlined in Sections 3 and 4 of the CCR.

3. Institutional Controls

Institutional controls will be implemented to protect the remedy and prevent inappropriate site uses. The institutional controls include an Environmental Land Use Control (ELUC) that outlines current site conditions and appropriate site restrictions and an as-built survey. Attachment A provides as-built surveys and legal descriptions, indicating the locations of the asphalt/gravel cover engineered barriers with respect to permanent benchmarks, prepared by Zahner and Associates, a professional land surveyor licensed in the State of Illinois. Upon approval by U.S. EPA and Illinois EPA, the ELUC and associated as-built surveys will be submitted to the St. Clair County Recorder of Deeds for filing with the deed for the property. Future access and construction activities will be controlled by the ELUC

4. Cover Maintenance

The engineered barriers are intended to ensure protection of human health and the environment. Areas where lead exceeded the remedial objective are covered with a minimum of 3 inches of asphalt in the case of areas S0720, S0716, S0707, S0717, and S0703. Areas where lead exceeded the remedial objective are covered with a minimum of 24 inches of gravel in the case of areas S0715 and S0610.

Maintenance procedures for the lead engineered barrier systems will be implemented at the Solutia W.G. Krummrich Plant. Specific procedures for the lead engineered barrier systems will include the following:

- Annual inspections for structural integrity, settlement, erosion and cracking;
- Performance of repairs as required; and
- Completion of inspection logs.

Required repairs will be made by qualified personnel and recorded on inspection log sheets that will be maintained in on-site files. A copy of the inspection log is included as Attachment C.

TABLES

Table 1
Lead in Soils - Analytical Results for S0716

Sample Location ID	Sample Collected	Lab Result (mg/kg)	Lab Qualifier
S0716	**10/28/03**	**1200**	
S0716-B-1	07/17/08	960	B
S0716-B-2**	07/17/08	730	B
S0716-B-3	07/17/08	26	B
S0716-B-4	07/17/08	85	B

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

Table 2
Lead in Soils - Analytical Results for S0707

Sample Location ID	Sample Collected	Lab Result (mg/kg)	Lab Qualifier
S0707	**03/26/03**	**1700**	
S0707-B-1	07/17/08	270	B
S0707-B-2	07/17/08	220	B
S0707-B-3**	07/17/08	130	B
S0707-B-4	07/17/08	25	B
S0707-B-5	07/17/08	280	B
S0707-B-6	07/17/08	350	B
S0707-B-7	07/17/08	590	B
S0707-B-8	07/17/08	270	B

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

Table 3
Lead in Soils - Analytical Results for S0717

Sample Location ID	Sample Collected	Lab Result (mg/kg)	Lab Qualifier
S0717	**10/28/03**	**3300**	
S0717-B-1**	07/17/08	2700	
S0717-B-2	07/17/08	2300	B
S0717-B-3	07/17/08	1100	B
S0717-B-4	07/16/08	480	B
S0717-B-5	07/16/08	2300	B
S0717-B-6	07/16/08	13	B
S0717-B-7	07/16/08	410	B
S0717-B-8	07/16/08	3900	B
S0717-B-9	07/21/08	2200	
S0717-B-10	07/21/08	2000	
S0717-B-11	07/17/08	2500	
S0717-B-12	07/16/08	1700	
S0717-B-13	07/16/08	17	
S0717-B-14	07/16/08	680	
S0717-B-16	07/17/08	1300	
S0717-B-20	07/16/08	19000	
S0717-B-21	07/16/08	520	
S0717-B-22	07/17/08	160	
S0717-B-23	07/17/08	240	
S0717-B-24	07/17/08	580	
S0717-B-25	08/05/08	490	B
S0717-B-26	08/05/08	720	B
S0717-B-27	08/05/08	4500	B
S0717-B-28	08/05/08	1600	B
S0717-B-33	08/05/08	1100	B
S0717-B-34	08/05/08	1300	B
S0717-B-35**	09/18/08	530	
S0717-B-36	09/18/08	130	
S0717-B-37	09/18/08	320	
S0717-B-38	09/18/08	2100	
S0717-B-39	09/18/08	460	
S0717-B-40	09/18/08	1700	
S0717-B-41	09/18/08	NA	
S0717-B-42	09/18/08	NA	
S0717-B-43	09/18/08	NA	
S0717-B-44	09/18/08	630	
S0717-B-45**	10/02/08	55	

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

Table 4
Lead in Soils - Analytical Results for S0715

Sample Location ID	Sample Collected	Lab Result (mg/kg)	Lab Qualifier
S0715	**10/29/03**	**1300**	**NE**
S0715-B-1	07/16/08	270	B
S0715-B-2	07/16/08	370	B
S0715-B-3	07/16/08	1000	B
S0715-B-4**	07/16/08	210	B
S0715-B-5	07/16/08	140	B
S0715-B-6	07/16/08	150	B
S0715-B-7	07/16/08	91	B
S0715-B-8	07/16/08	210	B
S0715-B-10	07/16/08	260	
S0715-B-12	07/16/08	430	

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.
E = Estimated due to interference.
N = Spiked sample recovery not within limits.

Table 5
Lead in Soils - Analytical Results for S0610

Sample Location ID	Sample Collected	Lab Results (mg/kg)	Lab Qualifier
S0610	**10/30/03**	**830**	
S0610-B-1**	07/15/08	1700	B
S0610-B-2	07/15/08	340	B
S0610-B-3	07/15/08	67	B
S0610-B-4	07/15/08	370	B
S0610-B-5	07/15/08	370	B
S0610-B-9	07/15/08	35	
S0610-B-11	07/15/08	310	

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.

Table 6
Lead in Soils - Analytical Results for S0703

Sample Location ID	Sample Collected	Lab Results (mg/kg)	Lab Qualifier
S0703	**03/21/03**	**880**	**N**
S0703-B-1	07/15/08	640	B
S0703-B-2	07/15/08	190	B
S0703-B-3	07/15/08	8.2	B
S0703-B-4**	07/15/08	180	B
S0703-B-5	07/15/08	69	B
S0703-B-6**	07/15/08	49	B
S0703-B-7	07/15/08	10	B
S0703-B-8	07/15/08	12	B

NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg)
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

B = Compound was found in the blank and sample.
N = Spiked sample recovery not within limits.

Table 7
Lead in Soils - Analytical Results for S0720

Sample Location ID	Sample Collected	Lab Result (mg/kg)	Lab Qualifier
S0720	**10/28/03**	**1600**	
S0720-B-1	07/17/08	56	B
S0720-B-2	07/17/08	120	B
S0720-B-3	07/17/08	320	B
S0720-B-4	07/17/08	3500	B
S0720-B-5**	07/17/08	76	B
S0720-B-6	07/17/08	270	B
S0720-B-7	07/17/08	790	B
S0720-B-8	07/17/08	38	B
S0720-B-11**	09/18/08	74	
S0720-B-14**	07/17/08	6400	
S0720-B-20	07/17/08	49	
S0720-B-21	07/17/08	220	
S0720-B-22	07/17/08	86	
S0720-B-23	07/17/08	1600	
S0720-B-24	07/17/08	2700	
S0720-B-27	08/05/08	130	B
S0720-B-28**	08/05/08	840	B
S0720-B-29	08/05/08	1100	B
S0720-B-30	08/05/08	1000	B
S0720-B-31	09/18/08	88	
S0720-B-32	09/18/08	230	
S0720-B-33	09/18/08	1900	
S0720-B-34	10/02/08	5000	
S0720-B-35	10/02/08	6100	
S0720-B-36	10/16/08	740	
S0720-B-37**	10/16/08	7800	
S0720-B-38	10/16/08	520	
S0720-B-39	10/16/08	200	
S0720-B-40	10/16/08	140	
S0720-B-41**	10/16/08	730	

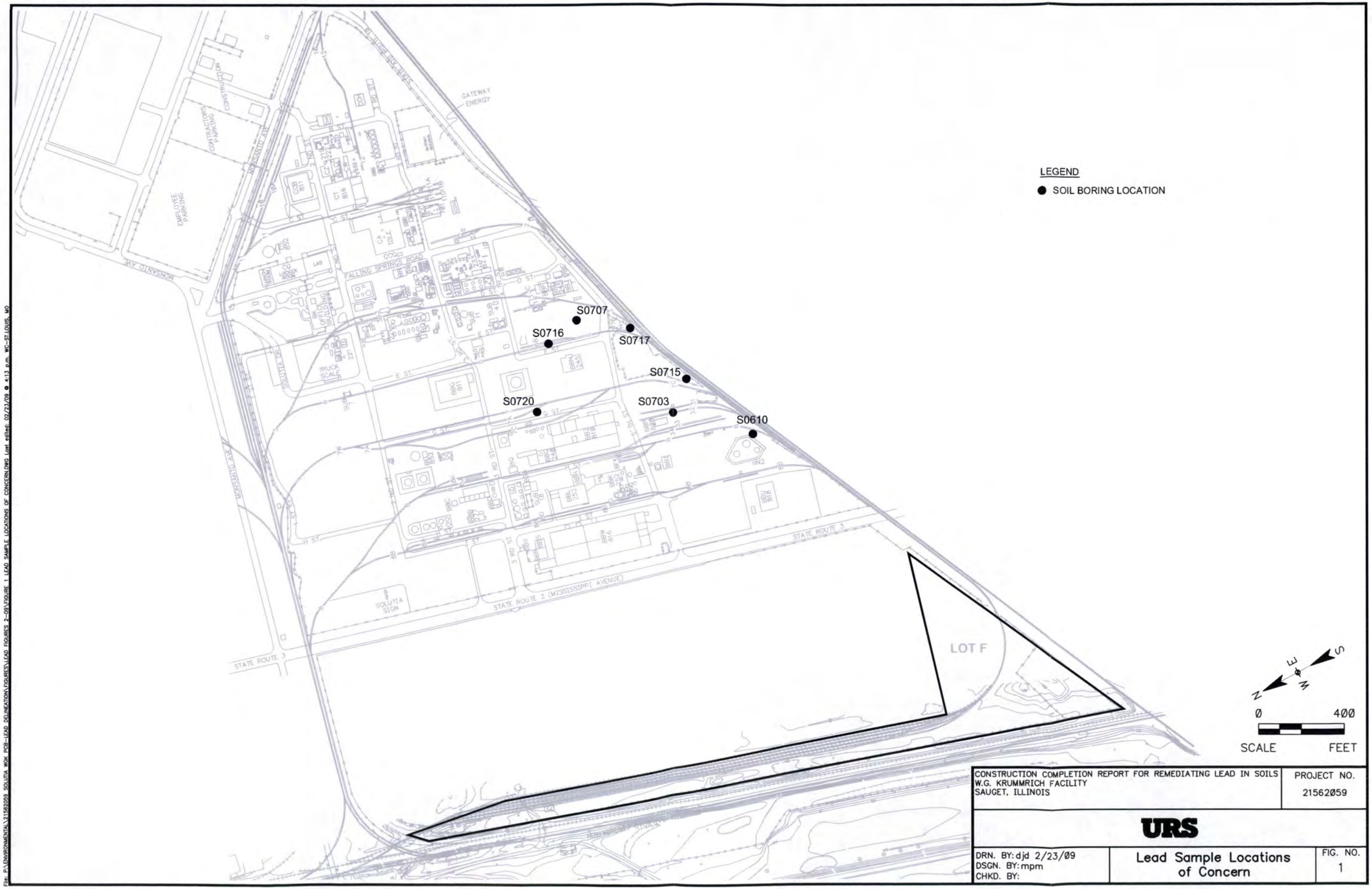
NOTES

1. Highlight indicates analytical result higher than screening level (700 mg/kg).
2. ** indicates analytical result shown as higher of two sample results.

LAB QUALIFIERS

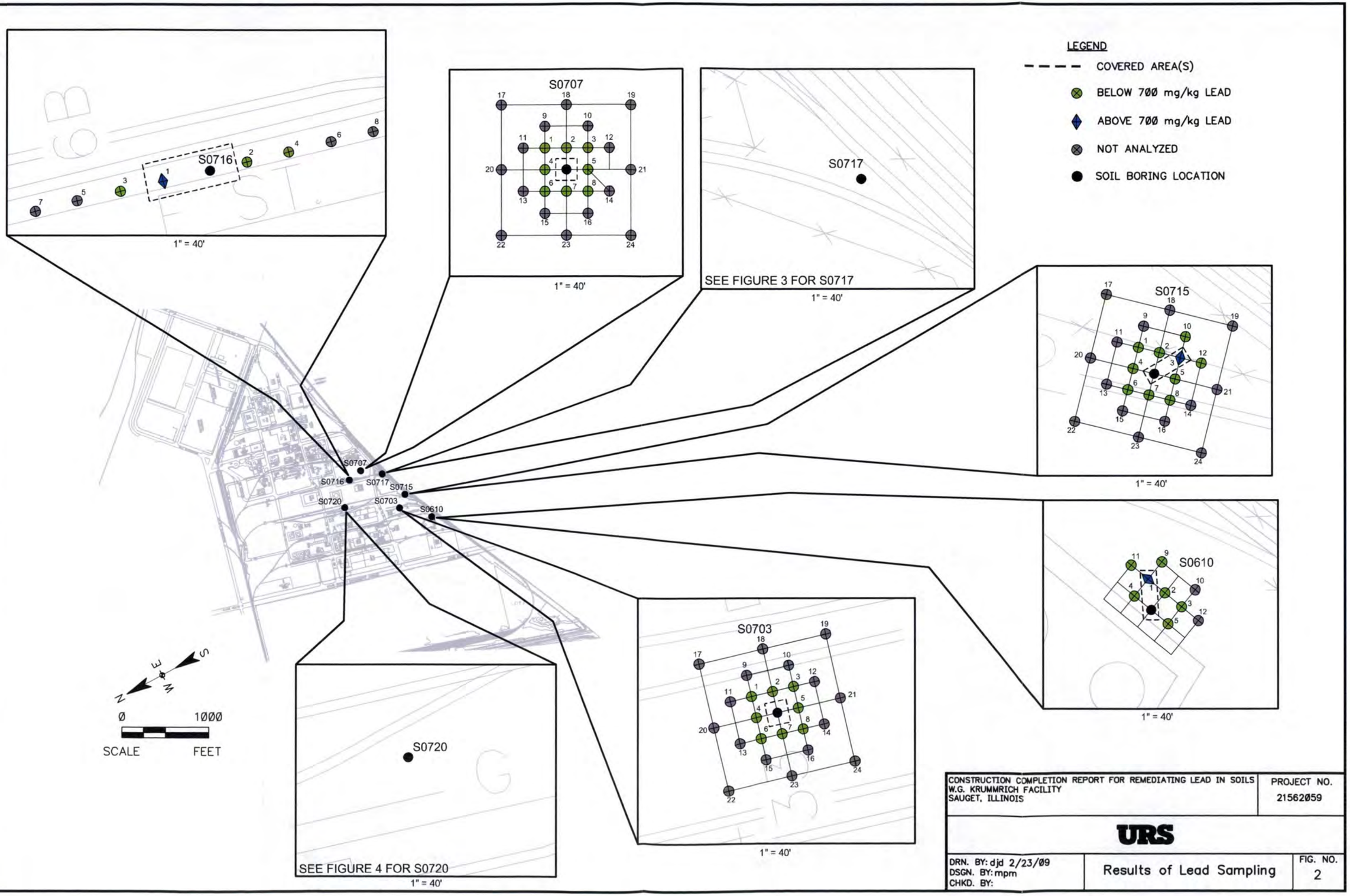
B = Compound was found in the blank and sample.

FIGURES



CONSTRUCTION COMPLETION REPORT FOR REMEDIATING LEAD IN SOILS W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562059
URS	
DRN. BY: djd 2/23/09 DSGN. BY: mpm CHKD. BY:	Lead Sample Locations of Concern — FIG. NO. 1

File: P:\ENVIRONMENTAL\21562059 SOLUTIA WGK PCB-LEAD DELINEATION\FIGURES\LEAD FIGURES 2-09\FIGURE 1 LEAD SAMPLE LOCATIONS OF CONCERN.DWG Last edited: 02/23/09 @ 4:13 p.m. WG-ST.LOUIS, MO



CONSTRUCTION COMPLETION REPORT FOR REMEDIATING LEAD IN SOILS
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562059

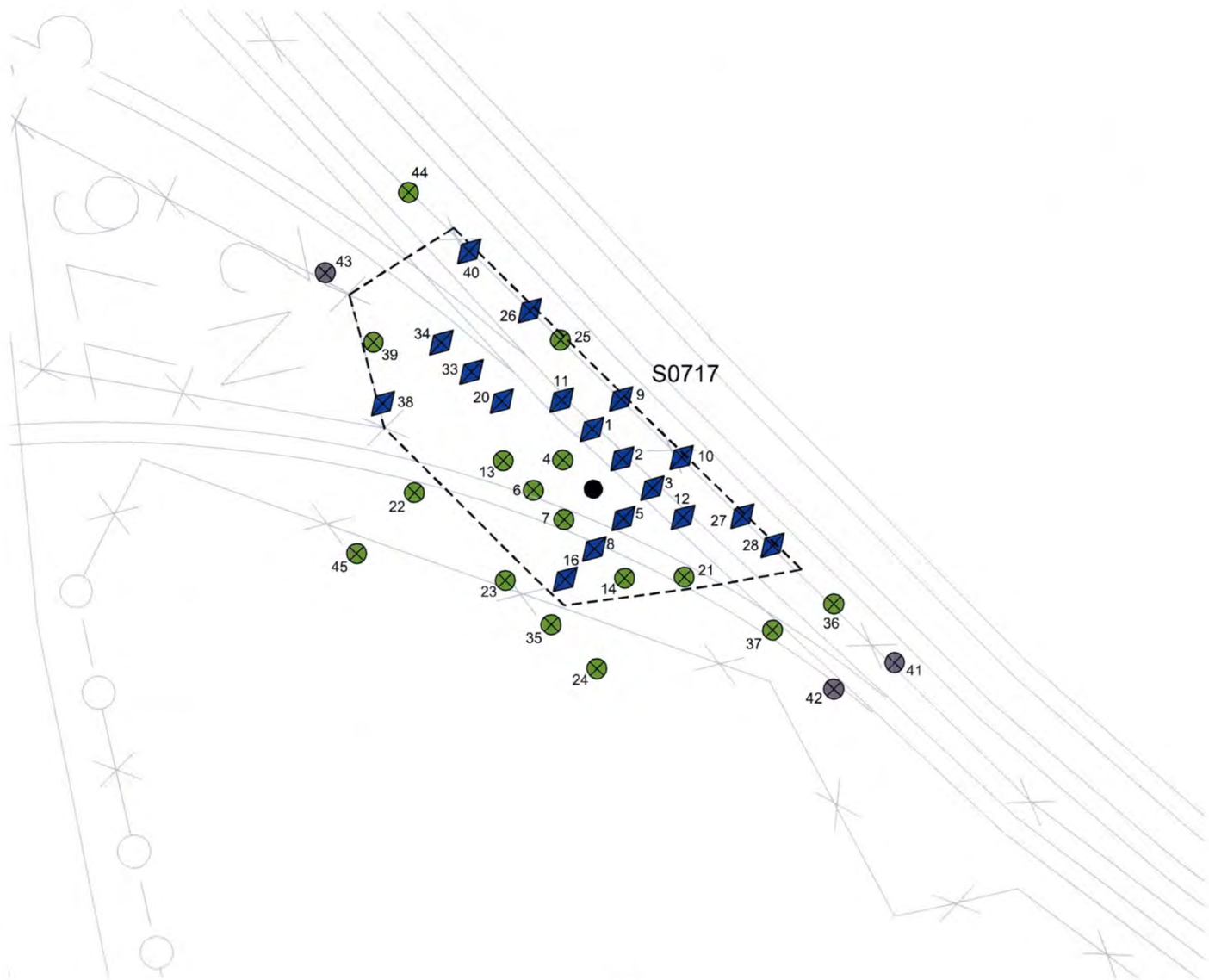
URS

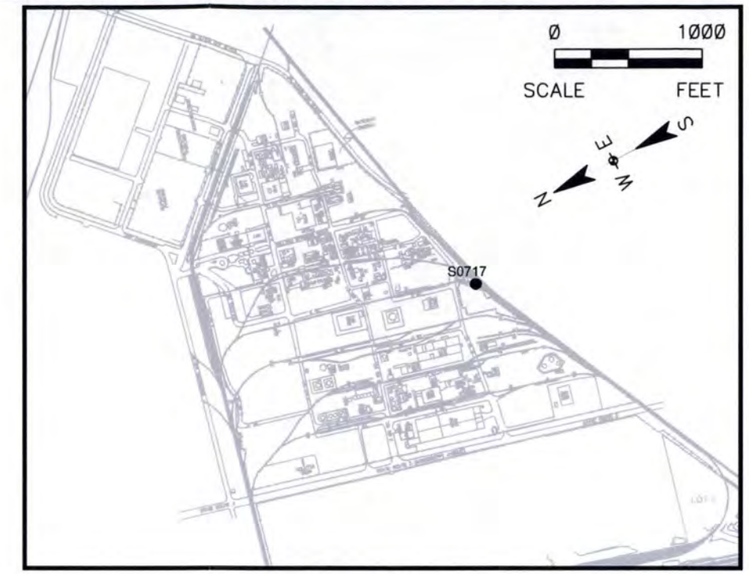
DRN. BY: djd 2/23/09
DSGN. BY: mpm
CHKD. BY:

Results of Lead Sampling

FIG. NO. 2

File: P:\ENVIRONMENTAL\21562059 SOUTH WOK PCB-LEAD DELINEATION\FIGURES\LEAD FIGURES 2-09\FIGURE 2 RESULTS OF LEAD SAMPLING.DWG Last edited: 02/23/09 @ 4:19 p.m. WC-ST LOUIS, MO





KEYMAP

LEGEND

- COVERED AREA(S)
- BELOW 700 mg/kg LEAD
- ABOVE 700 mg/kg LEAD
- HISTORICAL SOIL BORING LOCATION
- NOT ANALYZED

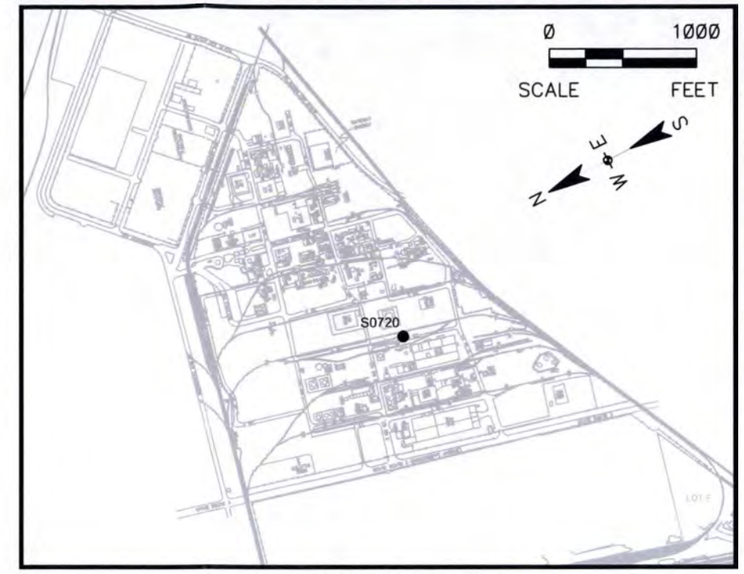
N E W S

0 30

SCALE FEET

CONSTRUCTION COMPLETION REPORT FOR REMEDIATING LEAD IN SOILS W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS		PROJECT NO. 21562059
URS		
DRN. BY: djd 2/23/09 DSGN. BY: mpm CHKD. BY:	Results of Lead Sampling Around S0717	FIG. NO. 3

File: P:\ENVIRONMENTAL\21562059 SOLUTIA WGK PCB-LEAD DELINEATION\FIGURES\LEAD FIGURES 2-09\FIGURE 3 PROPOSED LEAD SAMPLING AROUND (S0717).DWG Last edited: 02/23/09 @ 4:22 p.m. WG-ST.LOUIS, MO



KEYMAP

LEGEND

- COVERED AREA(S)
- BELOW 700 mg/kg LEAD
- ABOVE 700 mg/kg LEAD
- HISTORICAL SOIL BORING LOCATION

CONSTRUCTION COMPLETION REPORT FOR REMEDIATING LEAD IN SOILS W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562059
URS	
DRN. BY: djd 2/23/09 DSGN. BY: mpm CHKD. BY:	Results of Lead Sampling Around S0720 — FIG. NO. 4

File: P:\ENVIRONMENTAL\21562059 SOLUTIA WGK PCB-LEAD DELINEATION\FIGURES\LEAD FIGURES 2-09\FIGURE 4 PROPOSED LEAD SAMPLING AROUND (S0720).DWG Last edited: 02/23/09 @ 4:28 p.m. WG-ST.LOUIS, MO

ATTACHMENTS

ATTACHMENT A

SCALED MAPS AND LEGAL DESCRIPTIONS

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0716"
1458 Sq.Ft. (0.03 Ac.)

A tract of land being part of Lot No. 223 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 43°13'38" East a distance of 1591.41 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 00°00'16" West a distance of 62.58 feet to a PK nail; Thence South 88°28'46" East a distance of 23.26 feet to a cottonpicker spindle; Thence South 00°25'40" East a distance of 61.59 feet to a cottonpicker spindle; Thence South 89°05'39 West a distance of 23.71 feet to the point of beginning containing 1458 square feet (0.03 acre).

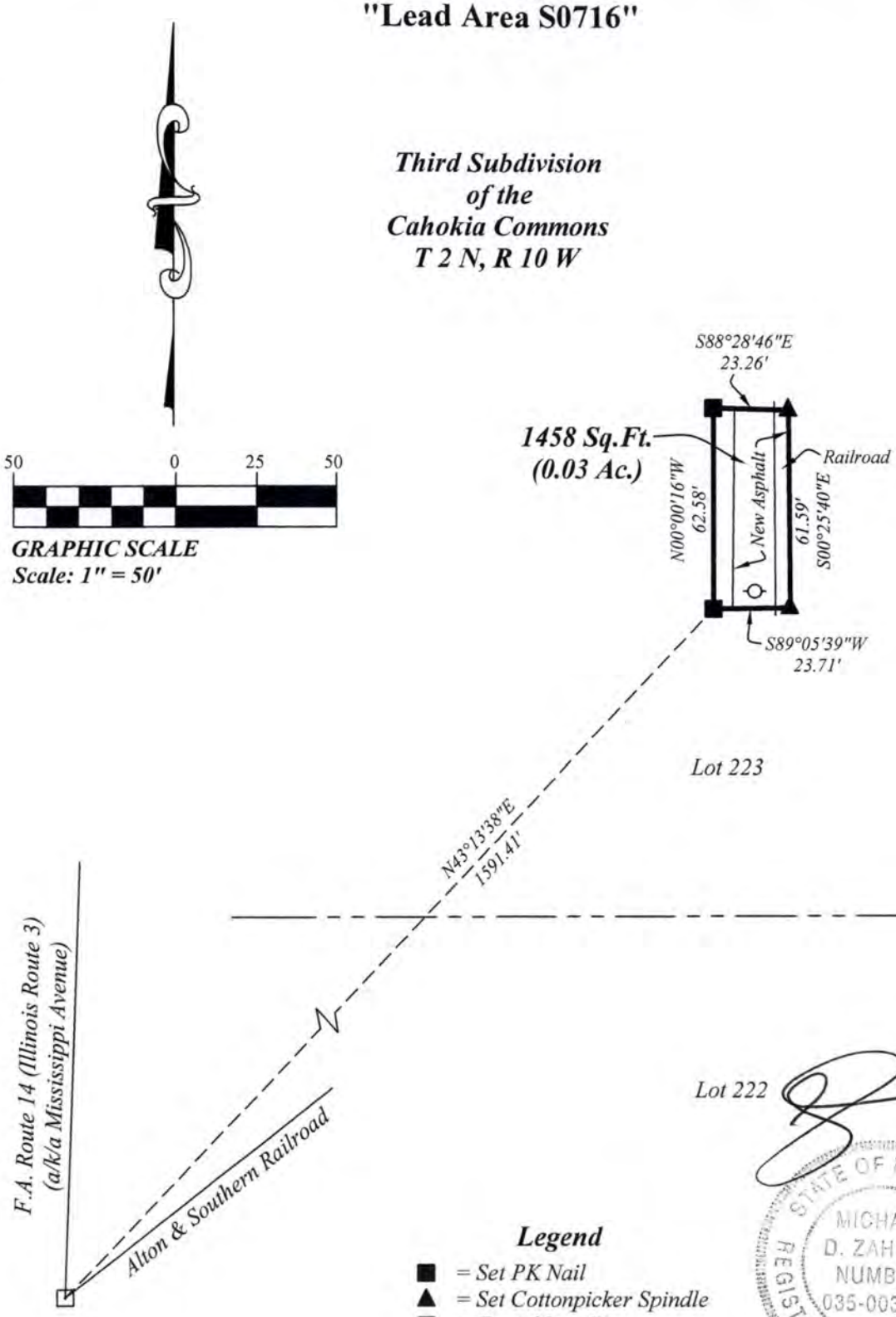
2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0716"

Third Subdivision
of the
Cahokia Commons
T 2 N, R 10 W



Legend

- ■ = *Set PK Nail*
- ▲ = *Set Cottonpicker Spindle*
- ⊡ = *Found Iron Pipe*
- -O- = *Power Pole*

STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0716
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0707"
100 Sq.Ft.

A tract of land being part of Lot No. 222 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

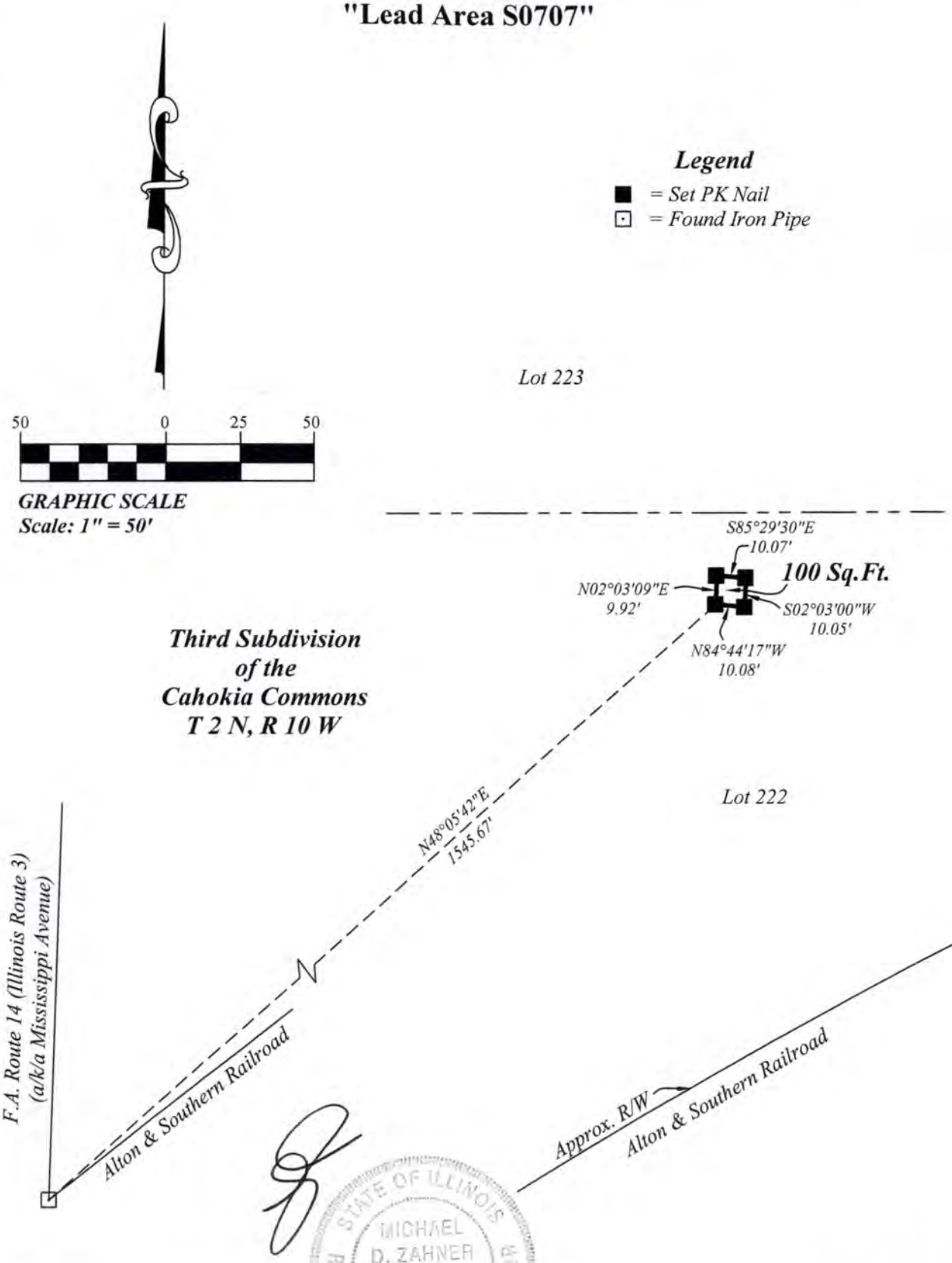
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 48°05'42" East a distance of 1545.67 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 02°03'09" East a distance of 9.92 feet to a PK nail; Thence South 85°29'30" East a distance of 10.07 feet to a PK nail; Thence South 02°03'00" West a distance of 10.05 feet to a PK nail; Thence North 84°44'17" West a distance of 10.08 feet to the point of beginning containing 100 square feet.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0707"



This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0707
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0717"
0.14 Ac.

A tract of land being part of Lot No. 222 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

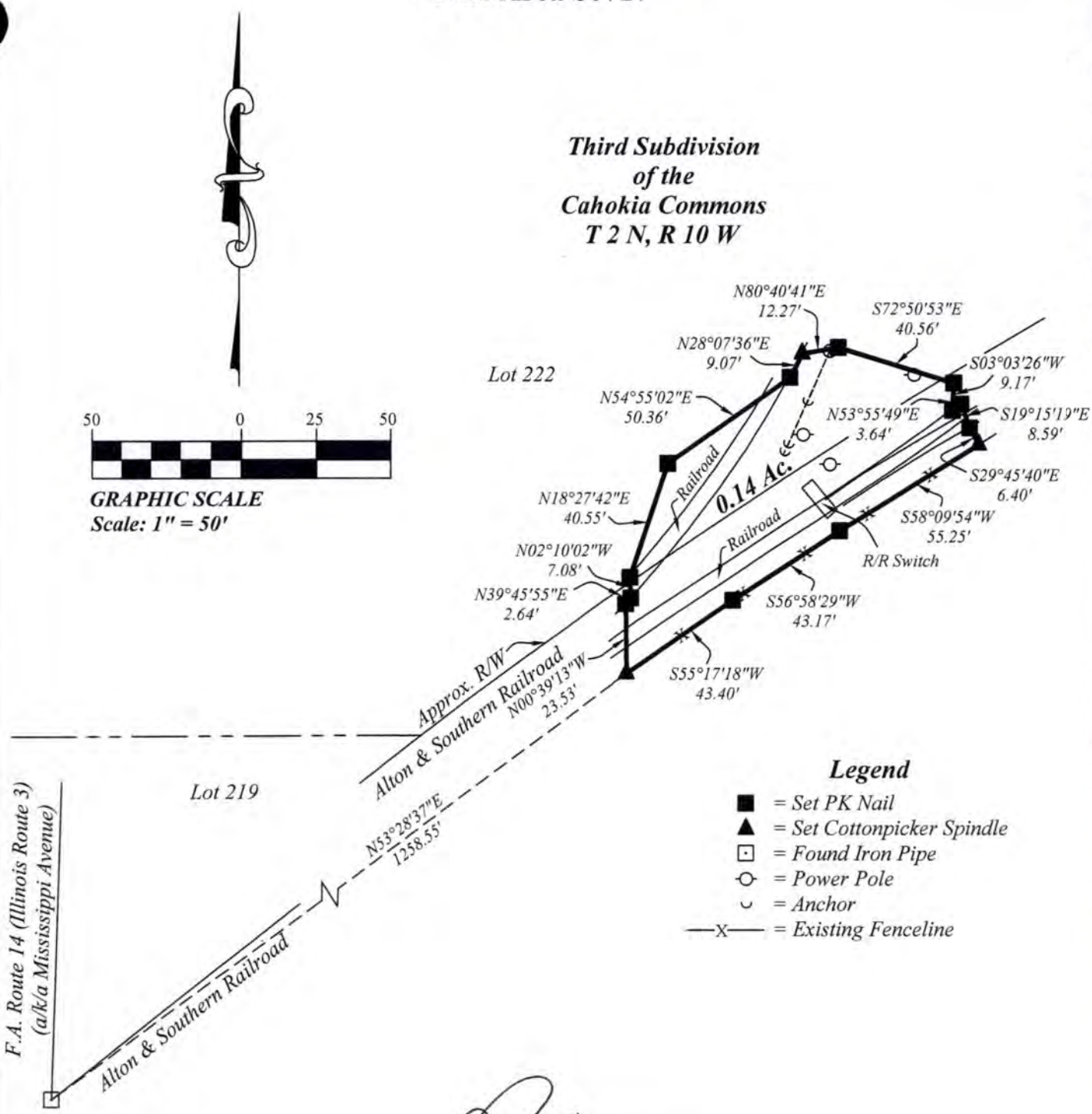
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 53°28'37" East a distance of 1258.55 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence North 00°39'13" West a distance of 23.53 feet to a PK nail; Thence North 39°45'55" East a distance of 2.64 feet to a PK nail; Thence North 02°10'02" West a distance of 7.08 feet to a PK nail; Thence North 18°27'42" East a distance of 40.55 feet to a PK nail; Thence North 54°55'02" East a distance of 50.36 feet to a PK nail; Thence North 28°07'36" East a distance of 9.07 feet to a cottonpicker spindle; Thence North 80°40'41" East a distance of 12.27 feet to a PK nail; Thence South 72°50'53" East a distance of 40.56 feet to a PK nail; Thence South 03°03'26" West a distance of 9.17 feet to a PK nail; Thence North 53°55'49" East a distance of 3.64 feet to a PK nail; Thence South 19°15'19" East a distance of 8.59 feet to a PK nail; Thence South 29°45'40" East a distance of 6.40 feet to a cottonpicker spindle; Thence South 58°09'54" West a distance of 55.25 feet to a PK nail; Thence South 56°58'29" West a distance of 43.17 feet to a PK nail; Thence South 55°17'18" West a distance of 43.40 feet to feet to the point of beginning containing 0.14 acre.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0717"



STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0717
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0715"
245 Sq.Ft.

A tract of land being part of Lot 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

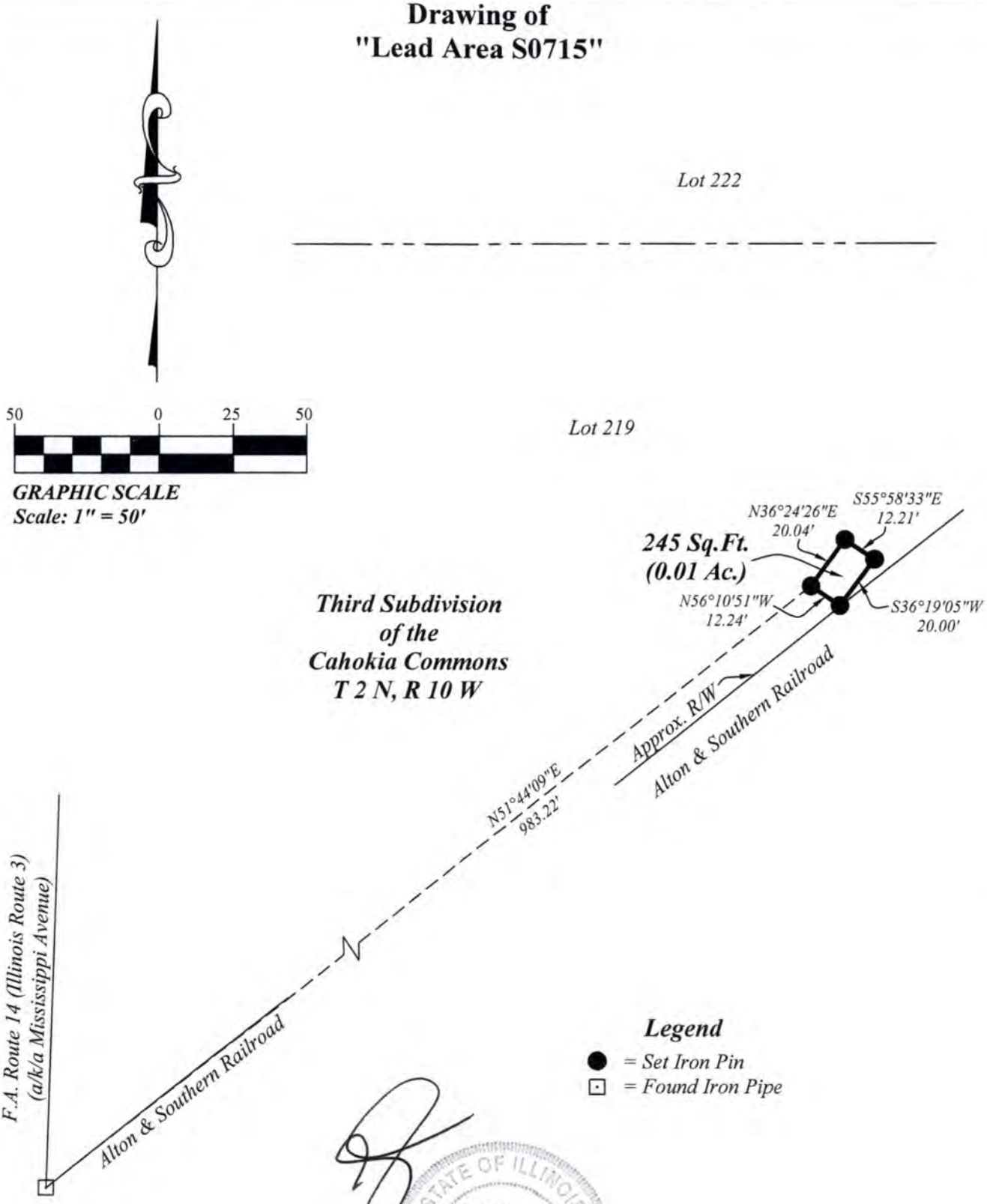
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 51°44'09" East a distance of 983.22 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North 36°24'26" East a distance of 20.04 feet to an iron pin; Thence South 55°58'33" East a distance of 12.21 feet to an iron pin; Thence South 36°19'05" West a distance of 20.00 feet to an iron pin; Thence North 56°10'51" West a distance of 12.24 feet to the point of beginning containing 245 square feet.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0715"



STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0715
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0610"
507 Sq.Ft. (0.01 Ac.)

A tract of land being part of Lot No. 218 and Lot No. 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

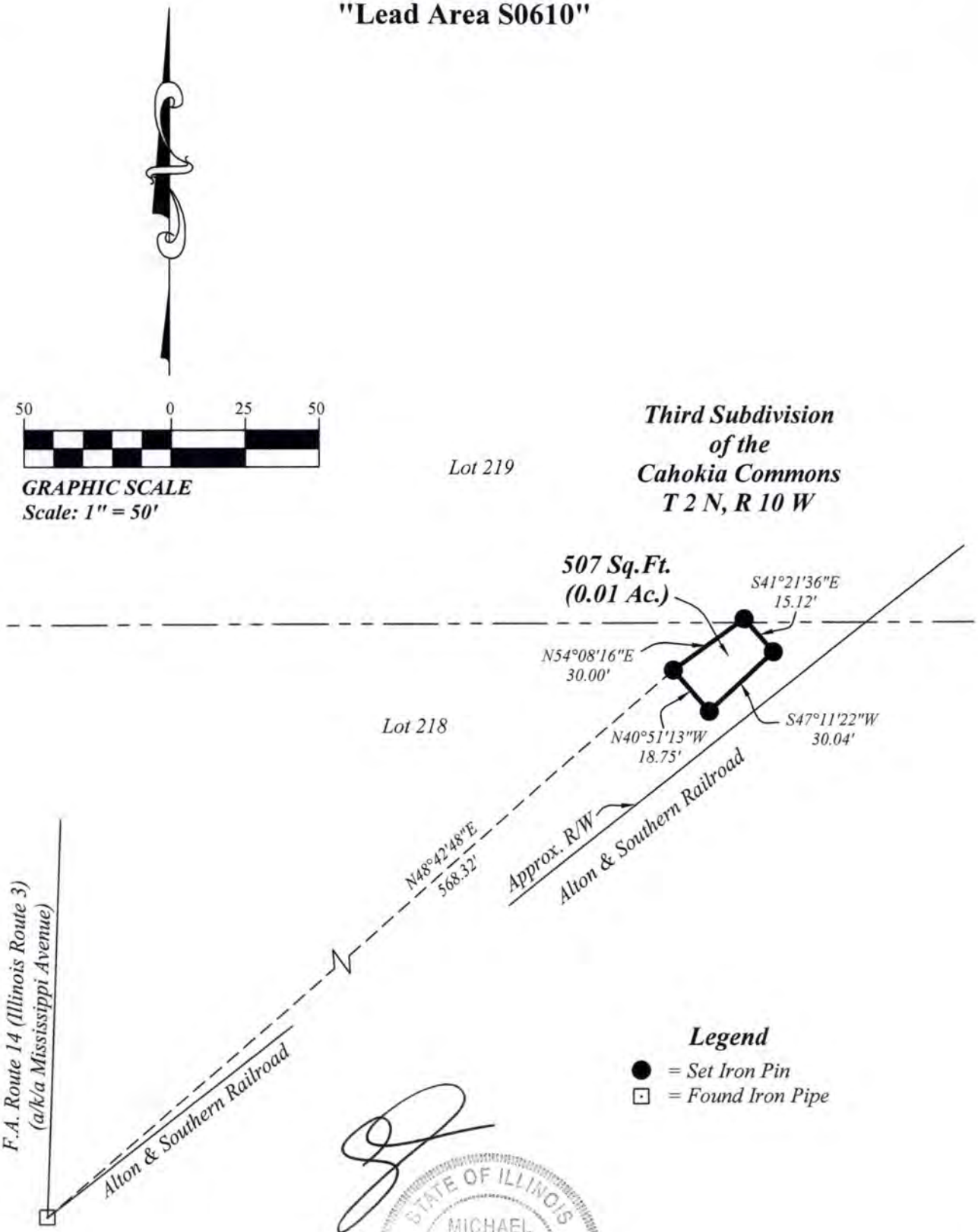
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 48°42'48" East a distance of 568.32 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North 54°08'16" East a distance of 30.00 feet to an iron pin; Thence South 41°21'36" East a distance of 15.12 feet to an iron pin; Thence South 47°11'22" West a distance of 30.04 feet to an iron pin; Thence North 40°51'13" West a distance of 18.75 feet to the point of beginning containing 507 square feet (0.01 acre).

2-23-09

STATE OF ILLINOIS
MICHAEL D ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0610"



STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0610
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0703"
103 Sq.Ft.

A tract of land being part of Lot No. 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

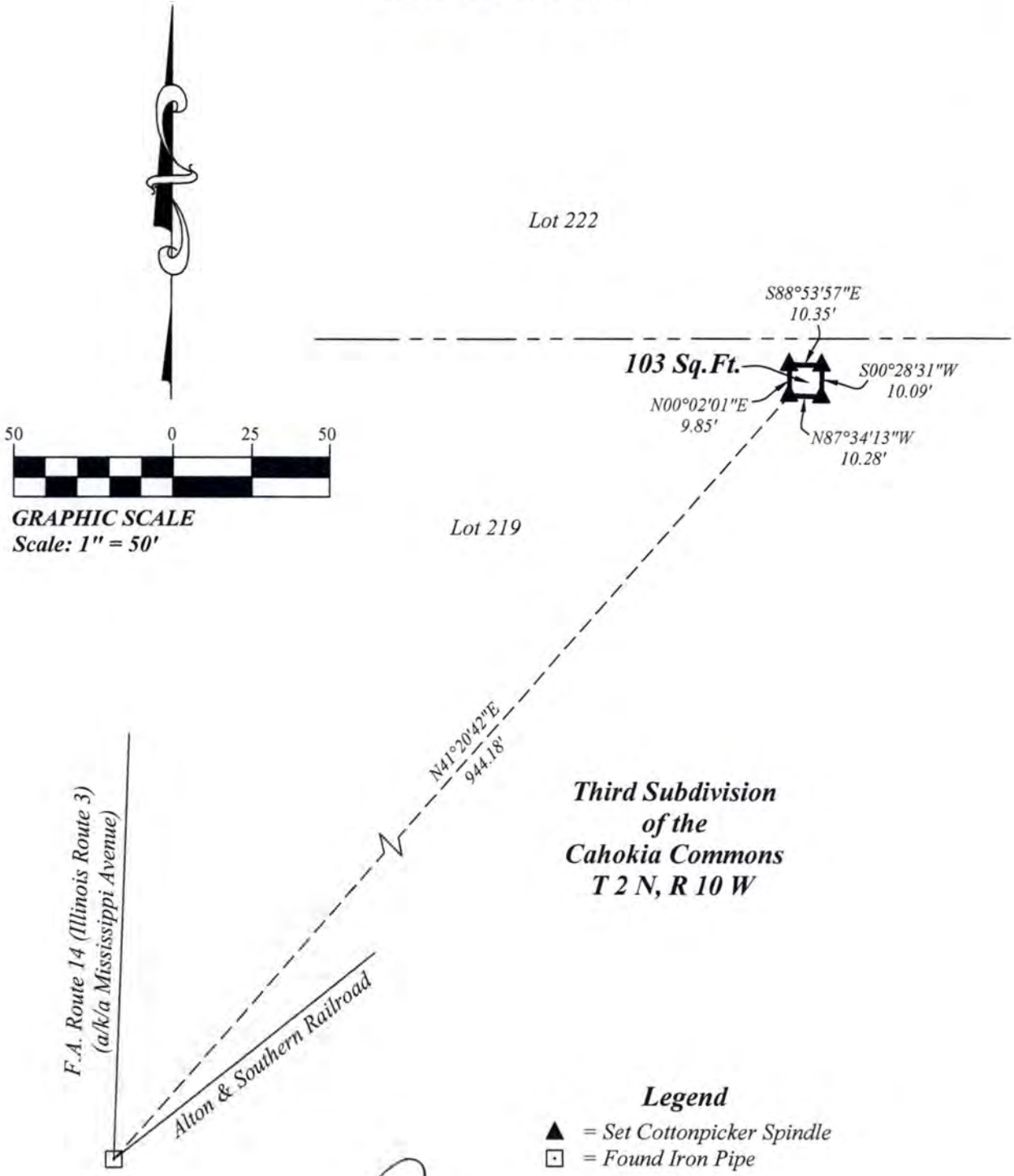
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 41°20'42" East a distance of 944.18 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence South 88°53'57" East a distance of 10.35 feet to a cottonpicker spindle; Thence South 00°28'31" West a distance of 10.09 feet to a cottonpicker spindle; Thence North 87°34'13" West a distance of 10.28 feet to a cottonpicker spindle; Thence North 00°02'01" East a distance of 9.85 feet to the point of beginning containing 103 square feet.

7-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0703"



STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0703
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0720"
0.14 Acre

A tract of land being part of Lot No. 223 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

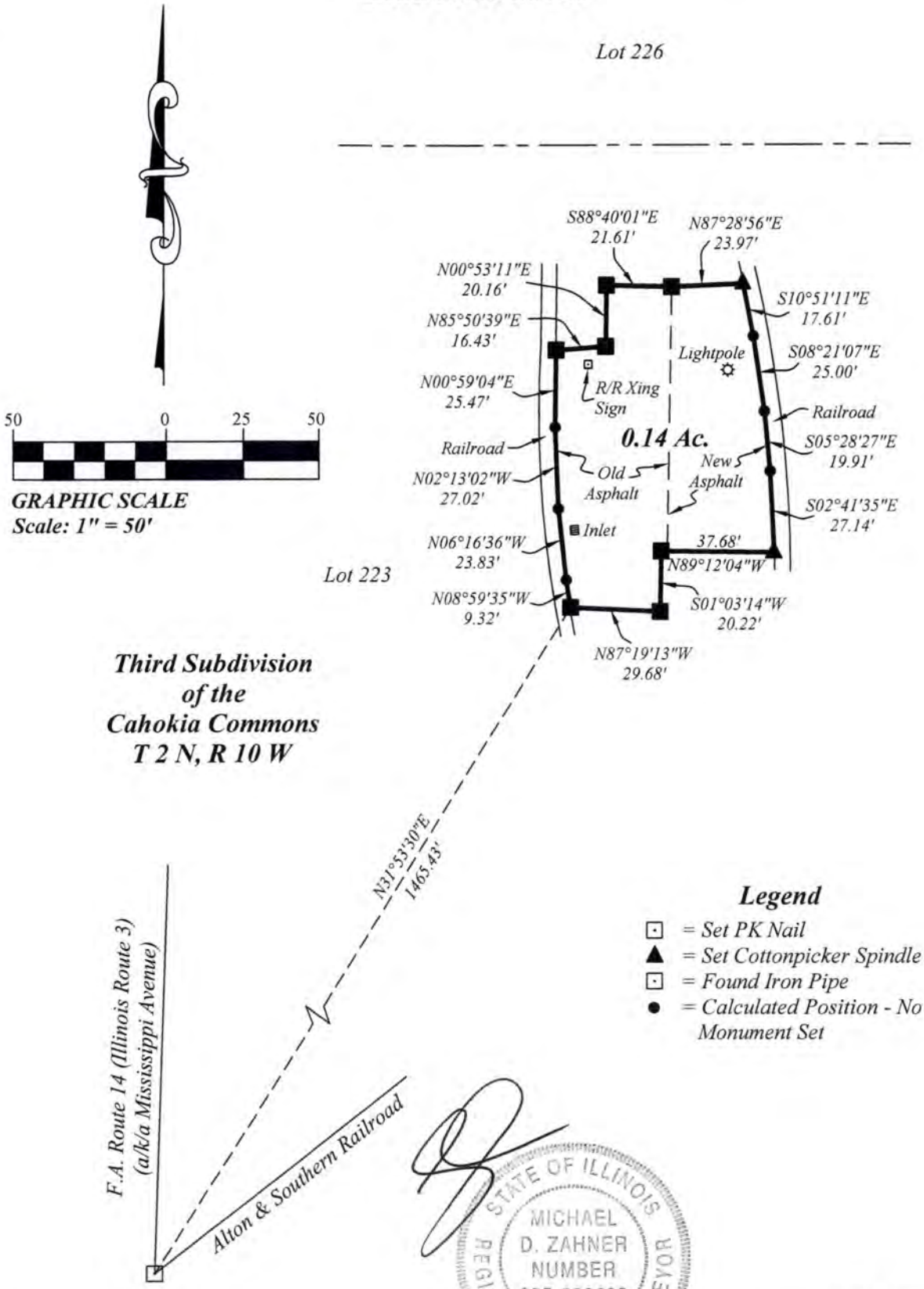
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 31°53'30" East a distance of 1465.43 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 08°59'36" West a distance of 9.32 to a point; Thence North 06°16'35" West a distance of 23.83 feet to a point; Thence North 02°13'02" West a distance of 27.02 feet to a point; Thence North 00°59'04" East a distance of 25.47 feet to a PK nail; Thence North 85°50'39" East a distance of 16.43 feet to a PK nail; Thence North 00°53'11" East a distance of 20.16 feet to a PK nail; Thence South 88°40'01" East a distance of 21.61 feet to a PK nail; Thence North 87°28'56" East a distance of 23.97 feet to a cottonpicker spindle; Thence South 10°51'11" East a distance of 17.61 feet to a point; Thence South 08°21'07" East a distance of 25.00 feet to a point; Thence South 05°28'27" East a distance of 19.91 feet to a point; Thence South 02°41'35" East a distance of 27.14 feet to a cottonpicker spindle; Thence North 89°12'04" West a distance of 37.68 feet to a PK nail; Thence South 01°03'14" West a distance of 20.22 feet to a PK nail; Thence North 87°19'13" West a distance of 29.68 feet to the point of beginning containing 0.14 acre.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0720"



This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0720
Date: 2-23-09
Drawn By: LH

ATTACHMENT B
PHOTOGRAPHIC LOG

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
1	02/24/09

Description:

S0716 - View looking north-northwest towards F Street, Little MO is pictured at the top

Photo No.	Date:
2	02/24/09

Description:

S0716 - View looking south-southwest towards 5th Street, building to the right is BBN245

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
3	02/24/09

Description:

S0717 - View looking west-southwest along property fence

Photo No.	Date:
4	02/24/09

Description:

S0717 - View looking east-northeast along property fence

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
5	02/24/09

Description:

S0715 - View looking north-northwest towards rail track #7C

Photo No.	Date:
6	02/24/09

Description:

S0715 - View looking south-southeast towards property fence

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
7	02/24/09

Description:

S0610 - View looking north-northeast towards rail track #8

Photo No.	Date:
8	02/24/09

Description:

S0610 - View looking south-southwest towards property fence

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
9	02/24/09

Description:

S0703 - View looking southwest in between existing rail lines

Photo No.	Date:
10	02/24/09

Description:

S0720 - View looking east-northeast along G Street, Little MO is pictured at the top

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562059

Photo No.	Date:
11	02/24/09

Description:

S0720 - View looking east-southeast along G Street, building BBN245 is pictured at the top

Photo No.	Date:
12	02/24/09

Description:

S0720 - View looking south-southwest along G Street, building BBZ is pictured at the right

ATTACHMENT C
INSPECTION LOG

Maintenance Inspection Log
Lead Areas

INSPECTOR _____

Date of Inspection _____

Item No.	Checklist	Area						
		S0610	S0703	S0707	S0715	S0716	S0717	S0720
C1	Are there bare spots?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
C2	Is there cracking evident?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
C3	Is there erosion evident?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
C4	Is there settlement or subsidence evident?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
C5	Is there any debris or obstruction?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N

If Yes, describe below

MAINTENANCE / REPAIR REQUIREMENTS

Describe any items requiring work. Mark the location of the item on figures if necessary. Add other sheets if necessary.

Area	Item No.	Maintenance or Repair Required	Marked on Figure (Y or N)	Date of Request for Work	Date Maintenance / Repair Work Completed

SOLUTIA

Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

February 27, 2009

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

VIA FEDEX

Re: Construction Completion Report
Remediation of Mercury in Soils at the Former Chlor-Alkali Area
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find one paper copy and one CD of the subject report, submitted within one year of and as required by the Final Decision received February 28, 2008.

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

Sincerely,

Gerald M. Rinaldi

Gerald M. Rinaldi
Manager, Remediation Services

Enclosures

DISTRIBUTION LIST

Construction Completion Report
Remediation of Mercury in Soils at the Former Chlor-Alkali Area
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

US EPA

Ken Bardo*	77 West Jackson Boulevard, Chicago, IL 60604

Illinois EPA

Jim Moore*	1021 North Grand Avenue East, Springfield, IL 62794

Solutia

Craig Branchfield**	500 Monsanto Avenue, Sauget, IL 62206-1198
Cathy Bumb**	575 Maryville Centre Drive, St. Louis, MO 63141
Tom Gartzke*	500 Monsanto Avenue, Sauget, IL 62206-1198
Brett Shank**	575 Maryville Centre Drive, St. Louis, MO 63141
Richard Williams**	500 Monsanto Avenue, Sauget, IL 62206-1198

* Paper copy and CD
** CD only

CONSTRUCTION COMPLETION REPORT
REMEDIATION OF MERCURY IN SOILS
AT THE FORMER CHLOR-ALKALI AREA
ON THE SOLUTIA W. G. KRUMMRICH PLANT
SAUGET, ILLINOIS

Submitted To:

U.S. Environmental Protection Agency
Region 5
77 West Jackson Blvd.
Chicago, Illinois

February 27, 2009

TABLE OF CONTENTS

Remedy Certification Statement
1. Introduction and Background ..... - 1 -
2. Results And Remedial Actions ..... - 2 -
   2.1 Pre-Excavation Activities ..... - 2 -
   2.2 Excavation Activities ..... - 3 -
   2.3 Backfill Activities ..... - 4 -
   2.4 Construction Quality Assurance ..... - 5 -
   2.5 Restoration Activities ..... - 5 -
3. Monitoring Activities ..... - 6 -

Table 1 – Summary of Excavated Material

Figure 1 – Identification of Soils Requiring Excavation
Figure 2 – Construction Plan
Figure 3 – As-Built Construction Details

Attachment A – Photographic Log
Attachment B – Waste Manifests
Attachment C – Backfill Material Information (Analytical and Geotechnical)
Attachment D – Boring Log, Monitoring Well As-Built Diagram and Development Sheet

Remedy Certification Statement

Facility Name: Solutia Inc. W. G. Krummrich Plant, Sauget, IL

Illinois EPA Identification Number: 16312100006

USEPA Identification Number: ILD000802702

Name of Remediated Unit(s): Former Chlor-Alkali Area

The unit(s) identified above have been remediated in accordance with a plan approved with conditions and modifications by the U.S. Environmental Protection Agency. A report demonstrating that remediation was carried out in accordance with the approved plan, and therefore remediation objectives were attained, is attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G M Rinaldi 2/27/09

Signature of Project Manager Date

G. M. Rinaldi, Manager, Remediation

Name and Title of Project Manager

Mailing Address of Project Manager:

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

1. Introduction and Background

This document presents the Construction Completion Report (CCR) for activities undertaken to remove soils impacted with mercury from the former Chlor-Alkali Area of the Solutia W.G. Krummrich facility in Sauget, Illinois.

The need for the investigation and corrective action was identified in the "Final Decision and Response to Comments for Solutia Inc., Sauget, Illinois, U.S. EPA No. ILD 000 802 702" (Final Decision) that was issued by the U.S. Environmental Protection Agency (U.S. EPA) on February 26, 2008, and received by Solutia on February 28, 2008. That document required the excavation of soils that contain mercury at concentrations in excess of 61 ppm provided that Solutia could demonstrate (and U.S. EPA approved the demonstration) that mercury has not migrated to groundwater in the Shallow Hydrogeologic Unit (SHU) in excess of a concentration of 0.002 ppm in the area immediately downgradient of the excavation.

This was demonstrated by the September 19, 2008, collection of a groundwater sample from Piezometer PZ-MA-1 – results of which indicated a mercury concentration less than 0.002 ppm (concentration was 0.00067 ppm) as communicated to U.S. EPA on October 7, 2008. Approval was subsequently granted by U.S. EPA for a cleanup level of 61 ppm on November 17, 2008.

Soils impacted with mercury above 61 ppm were identified in the upper 13 feet beneath portions of the area located between the CCH building and B Street as depicted in Figure 1. The remedial approach was to excavate soils containing soil impacted with mercury with levels above 61 ppm and transport them to a proper disposal facility. Due to the proximity of existing building CCH to the excavation area, an earth retention system (ERS) consisting of cold-formed sheet pile was installed around the excavation area to allow soil removal to the required depths without endangering the adjacent Building CCH and worker safety. Sheet piling, excavation, and backfilling occurred in sequence.

2. Results And Remedial Actions

The results of the investigation have previously been provided to U.S. EPA under separate cover. As depicted in Figure 1, soils impacted with mercury have been identified in the uppermost 13 feet beneath portions of the area located between the CCH building and B Street.

The remedial actions were indented to remove soils (in the depth range previously agreed to with U.S. EPA) that contain mercury in excess of 61 ppm. In order to perform the remedial activities, various activities were followed in sequence including pre-excavation, excavation and site restoration. Each of these construction activities followed general site and project specific health and safety requirements. Activities were performed during February 2 through February 17, 2009 by Pangea Inc. (Pangea) with construction oversight provided by URS Corporation (URS).

2.1 Pre-Excavation Activities

The following pre-excavation work was conducted prior to commencing excavation:

- Piezometer PZ-MA-01 located within the footprint of the excavation was abandoned.
- Soil representative of that to be excavated was collected and composited for analytical testing to profile the material for disposal.
- A Construction Plan was developed by Pangea outlining the procedures for pre-excavation, excavation and site restoration activities.
- Pangea laid out the excavation using the coordinates and measurements provided in Figure 2 (See also Photographic Log – Attachment A). Work zones were established based on the excavation layout, and temporary barricades and signage were installed around the perimeter of the excavation area to control access.
- A temporary decontamination pad constructed of heavy duty plastic sheeting was installed in a location where all equipment and trucks entered and exited the

project area. All equipment and trucks went through decontamination prior to leaving the site. At a minimum this consisted of using hand tools such as shovels and brooms to remove excess soil from vehicles.

- Pangea conducted trenching to a depth of 12 feet along the perimeter of the excavation footprint to identify possible obstructions that may interfere with sheet pile installation. Pretrenching located and identified various concrete footings and slabs, a manhole and two storm sewer pipes that were encased in concrete. The concrete footings and slabs were reduced in size using a trackhoe equipped with a hoe ram. The manhole and storm sewer pipes were left in place.
- An earth retention system (ERS) consisting of sheet pile was installed along the perimeter of the excavation footprint. Sheet piles were installed using an ABI excavator-mounted vibratory pile hammer. The ERS consisted of 37-foot-long sheet piles (cold-rolled SKZ25 (Grade 60)) installed to a depth of approximately 35 feet below ground surface (bgs). The as-built details are shown in Figure 3.

2.2 Excavation Activities

Excavation activities were initiated once all site preparation was completed and the ERS was in place. The following excavation activities were performed in sequence:

- Surface cover material consisting of asphalt was removed and disposed of off-site;
- Plastic sheeting was placed on the ground in a location beneath the trucks and in the "swing zone" of the excavator to collect any spillage during loading.
- Soils located inside the ERS were excavated by Pangea using a Caterpillar model 325 trackhoe. Excavated soils were loaded directly into trailer or tandem trucks under manifest. Manifests (copies provided in Attachment B) were prepared for each load of soil that was shipped off-site to the disposal facility. Soils were managed as non-hazardous special waste, based on the waste characterization profile and transported to the Waste Management Milam Recycling and Disposal

Facility (RDF) Landfill located in East St. Louis, Illinois. Trucks were covered and decontaminated prior to departing the Site.

- Excavation continued beyond the planned minimum depths (as previously agreed to between Solutia with U.S. EPA) as shown on Figure 3 resulting in the removal of approximately 600 cubic yards of material as manifested. Table 1 provides a summary of the excavated material. Confirmation depth measurements were subsequently performed by Pangea and URS using a rod and level attached to the bucket of the excavator.
- Backfilling commenced once excavation activities were complete and after total depth were confirmed and documented.

2.3 Backfill Activities

Prior to importation, backfill samples were collected for chemical and geotechnical testing. Four samples of the borrow source materials were obtained and tested for various contaminants and compared to baseline remediation objectives (i.e. Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO) Tier I) to ensure that materials were suitable for backfill. Attachment C provides the analytical results (chemical and geotechnical) of the material that was used for the backfill. The material was approved since all constituents were below Illinois TACO Tier I levels.

Imported material consisting of CA-7 (1" clean limestone) from the Falling Springs Quarry located in Dupo, Illinois, was used for backfill. The trackhoe was used to place the material and compact the first two 1-foot-thick lifts. Subsequent lifts were compacted with a minimum of six passes using a remote vibratory sheepsfoot roller to a medium dense condition. A VM75 vibratory smooth-drum roller was used to perform compaction in the upper three feet of the excavation.

Prior to completing backfilling of the uppermost 1 foot, Pangea excavated additional soils on the exterior of the ERS to create room for cutting off the sheet pile below ground

surface. The excavated soils were loaded directly into trailer or tandem trucks under manifest as previously described in Section 2.2. The sheet pile was subsequently cut off approximately 1-foot below ground surface and disposed of.

The top one foot of the excavation was backfilled with material consisting of CA-6 (crushed limestone gravel) to pre-excavation grades. The smooth-drum vibratory roller was used to compact each lift to a dense to very dense condition in the majority of the area. The area where the concrete-encased storm sewer pipes are located were subsequently static rolled to a dense to very dense condition.

2.4 Construction Quality Assurance

The overall objectives of the Construction Quality Assurance (CQA) program were to ensure the proper construction techniques and procedures were used and to verify that the materials used met specifications.

Quality assurance items completed by Pangea and/or URS included the following:

- Testing of backfill material (geotechnical and environmental) and comparing results to IEPA Taco Tier I criteria and geotechnical results to specified gradation requirements;
- Inspecting each pile for damage, proper length, lifting hole diameter, and placement;
- Confirming sheet pile alignment;
- Documenting excavation depths; and
- Documenting backfill placement, per specifications.

2.5 Restoration Activities

Restoration work included returning the site to preconstruction conditions and final grading of the CA-6 crushed limestone gravel to pre-excavation grades.

3. Monitoring Activities

Pursuant to U.S. EPA's request, a monitoring well, MA-MW01, screened in the SHU was installed immediately downgradient of the excavation to allow for the collection of four quarters of groundwater samples. The monitoring well was installed by Roberts Environmental Drilling Inc. (REDI) using hollow stem auger methodology. Prior to well installation, the subsurface stratigraphy was logged and documented by URS; the boring log is included in Attachment D.

The monitoring well was constructed using 2 – inch diameter schedule 40 polyvinyl chloride (PVC) and a 5-foot long, 0.010 inch slot screen size. The well was completed with a flush mount protector. A Monitoring Well Completion Log is also included in Attachment D. Following installation, the monitoring well was developed (surged and pumped) to establish a good hydraulic connection with the SHU. The well development form is included in Attachment D.

Laboratory results from the first sampling event (conducted February 23, 2009) and subsequent events will be provided as they become available.

At the completion of the required four quarters of groundwater sampling, if all four results are below 0.0002 ppm mercury, the well will be abandoned. Otherwise, an action plan will be proposed.

TABLES

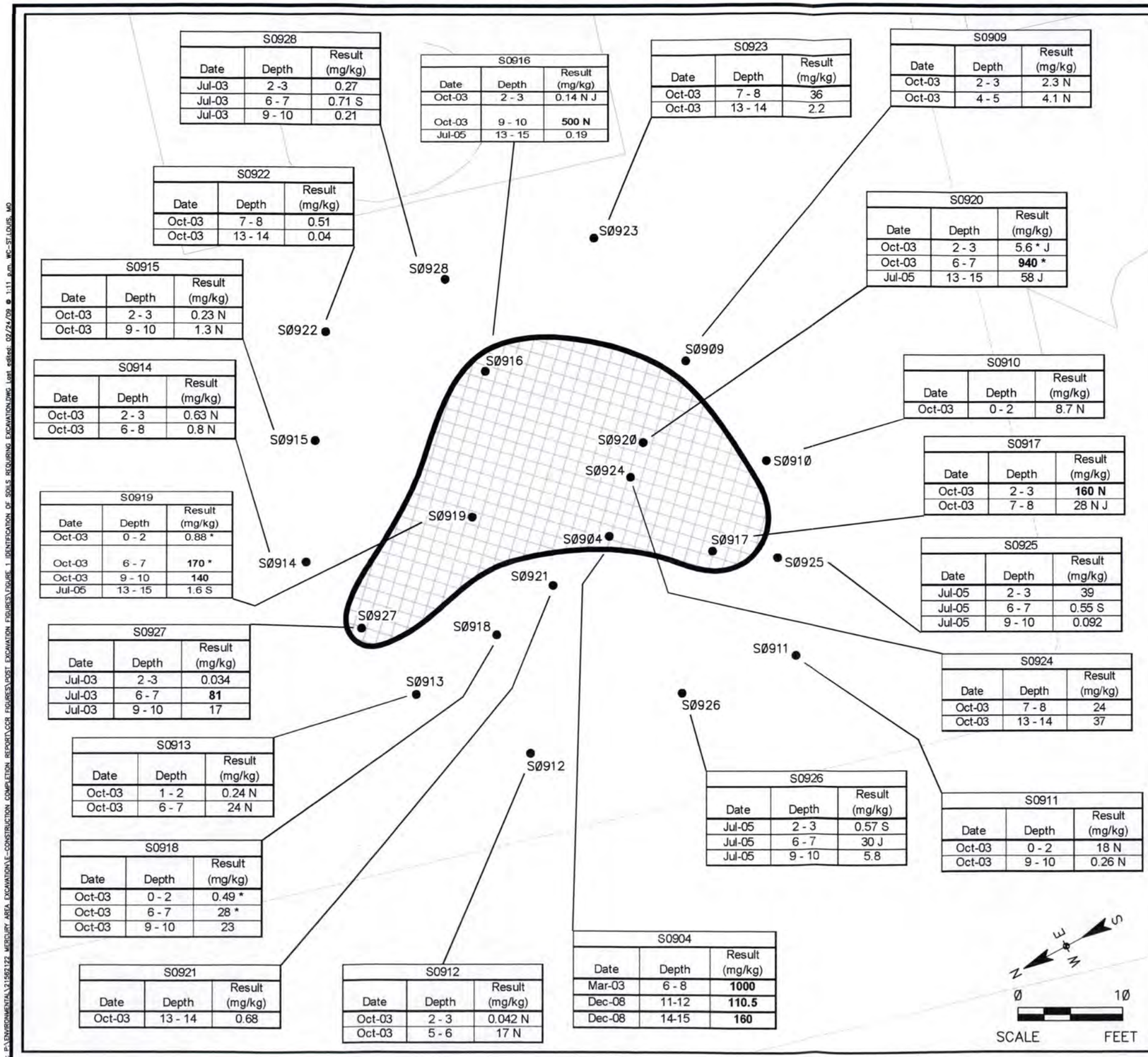
Table 1
Summary of Excavated Material

Ticket Date	Manifest	WM Ticket ID	Tons	Yards (est.)
2/9/2009	5114555	679441	15.87	12
2/9/2009	5114558	679443	14.6	12
2/9/2009	5114557	679444	18.65	12
2/9/2009	5114556	679446	18.94	12
2/9/2009	5114559	679485	15.75	12
2/9/2009	5114560	679486	16.25	12
2/9/2009	5114561	679488	14.4	12
2/9/2009	5114562	679494	16.02	12
2/9/2009	5114563	679514	11.25	8
2/9/2009	5114564	679517	11.62	8
2/9/2009	5114565	679539	17.87	12
2/9/2009	5114566	679542	19.88	12
2/9/2009	5114567	679547	18.6	12
2/9/2009	5114568	679554	18.31	12
2/9/2009	5114570	679563	11.68	8
2/9/2009	5114574	679632	19.25	12
2/9/2009	5114573	679640	15.69	12
2/9/2009	5114576	679645	9.97	8
2/9/2009	5114571	679649	16.74	12
2/9/2009	5114572	679650	18.97	12
2/9/2009	5114577	679673	19.22	12
2/9/2009	5114578	679680	18.06	12
2/9/2009	5114579	679685	10.77	8
2/9/2009	5114580	679690	11.38	8
2/9/2009	5114581	679698	16.31	12
2/9/2009	5114582	679705	14.84	12
2/9/2009	5114583	679721	19.09	12
2/9/2009	5114584	679729	16.59	12
2/9/2009	5114585	679730	13.6	8
2/9/2009	5114586	679732	11.7	8
2/9/2009	5114587	679741	19.29	12
2/9/2009	5114588	679748	16.45	12
2/9/2009	5114589	679784	17.5	12
2/9/2009	5114591	679795	17.38	12
2/9/2009	5114590	679799	11.32	8
2/9/2009	5114592	679800	10.14	8
2/9/2009	5114594	679804	15.64	12
2/9/2009	5114593	679805	14.54	12
2/9/2009	5114575	680914	13.59	8
2/9/2009	5114569	680915	13.49	8

Table 1
Summary of Excavated Material

Ticket Date	Manifest	WM Ticket ID	Tons	Yards (est.)
2/10/2009	5114595	679911	17.57	12
2/10/2009	5114596	679916	11.11	12
2/10/2009	5114597	679919	13.99	12
2/10/2009	5114598	679959	16.79	12
2/10/2009	5114599	679967	16.48	12
2/10/2009	5114600	679979	20.5	12
2/10/2009	5114601	680001	16.73	12
2/10/2009	5114602	680016	18.81	12
2/10/2009	2173992	680063	18	12
2/10/2009	2173993	680087	15.09	12
2/10/2009	2173994	680090	17.35	12
2/10/2009	5114603	680121	11.52	12
2/12/2009	2173995	680773	17.62	8
2/12/2009	2173996	680796	16.06	8
2/12/2009	2173998	680823	18.58	8
2/17/2009	2173997	681706	3.56	8
		Total:	**870.97**	**608**

FIGURES



S0928		
Date	Depth	Result (mg/kg)
Jul-03	2 -3	0.27
Jul-03	6 - 7	0.71 S
Jul-03	9 - 10	0.21

S0916		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	0.14 N J
Oct-03	9 - 10	**500 N**
Jul-05	13 - 15	0.19

S0923		
Date	Depth	Result (mg/kg)
Oct-03	7 - 8	36
Oct-03	13 - 14	2.2

S0909		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	2.3 N
Oct-03	4 - 5	4.1 N

S0922		
Date	Depth	Result (mg/kg)
Oct-03	7 - 8	0.51
Oct-03	13 - 14	0.04

S0920		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	5.6 * J
Oct-03	6 - 7	**940 ***
Jul-05	13 - 15	58 J

S0915		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	0.23 N
Oct-03	9 - 10	1.3 N

S0914		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	0.63 N
Oct-03	6 - 8	0.8 N

S0910		
Date	Depth	Result (mg/kg)
Oct-03	0 - 2	8.7 N

S0917		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	**160 N**
Oct-03	7 - 8	28 N J

S0919		
Date	Depth	Result (mg/kg)
Oct-03	0 - 2	0.88 *
Oct-03	6 - 7	**170 ***
Oct-03	9 - 10	**140**
Jul-05	13 - 15	1.6 S

S0925		
Date	Depth	Result (mg/kg)
Jul-05	2 - 3	39
Jul-05	6 - 7	0.55 S
Jul-05	9 - 10	0.092

S0927		
Date	Depth	Result (mg/kg)
Jul-03	2 -3	0.034
Jul-03	6 - 7	**81**
Jul-03	9 - 10	17

S0924		
Date	Depth	Result (mg/kg)
Oct-03	7 - 8	24
Oct-03	13 - 14	37

S0913		
Date	Depth	Result (mg/kg)
Oct-03	1 - 2	0.24 N
Oct-03	6 - 7	24 N

S0926		
Date	Depth	Result (mg/kg)
Jul-05	2 - 3	0.57 S
Jul-05	6 - 7	30 J
Jul-05	9 - 10	5.8

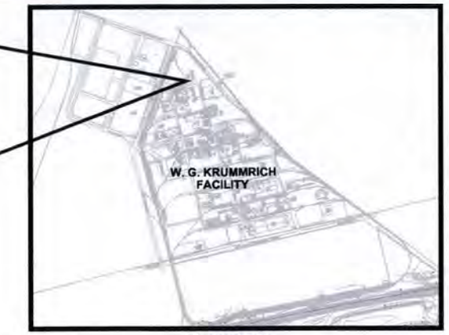
S0911		
Date	Depth	Result (mg/kg)
Oct-03	0 - 2	18 N
Oct-03	9 - 10	0.26 N

S0918		
Date	Depth	Result (mg/kg)
Oct-03	0 - 2	0.49 *
Oct-03	6 - 7	28 *
Oct-03	9 - 10	23

S0921		
Date	Depth	Result (mg/kg)
Oct-03	13 - 14	0.68

S0912		
Date	Depth	Result (mg/kg)
Oct-03	2 - 3	0.042 N
Oct-03	5 - 6	17 N

S0904		
Date	Depth	Result (mg/kg)
Mar-03	6 - 8	**1000**
Dec-08	11-12	**110.5**
Dec-08	14-15	**160**



KEYMAP
1" = 2000'

LEGEND

AREA OF SOIL CONTAINING MERCURY EXCEEDING THE DIRECT CONTACT VALUE (>61mg/kg)

● BORING LOCATION

NOTES:
1. DIRECT CONTACT SCREENING CRITERIA FOR MERCURY IS FROM IEPA TACO. DIRECT CONTACT EXCEEDANCES ARE SHOWN IN BOLD.
2. FOR DUPLICATE SAMPLES, THE HIGHER RESULT IS SHOWN.

QUALIFERS:
B – COMPOUND WAS FOUND IN THE BLANK AND SAMPLE.
J – RESULT IS LESS THAN THE RL, BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE.
N – SPIKED SAMPLE RECOVERY IS NOT WITHIN CONTROL LIMITS.
S – RESULT WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.
* – DUPLICATE ANALYSIS IS NOT WITHIN CONTROL LIMITS.

CONSTRUCTION COMPLETION REPORT
FORMER CHLOR–ALKALI AREA CORRECTIVE MEASURES IMPLEMENTATION
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

PROJECT NO. 21562122

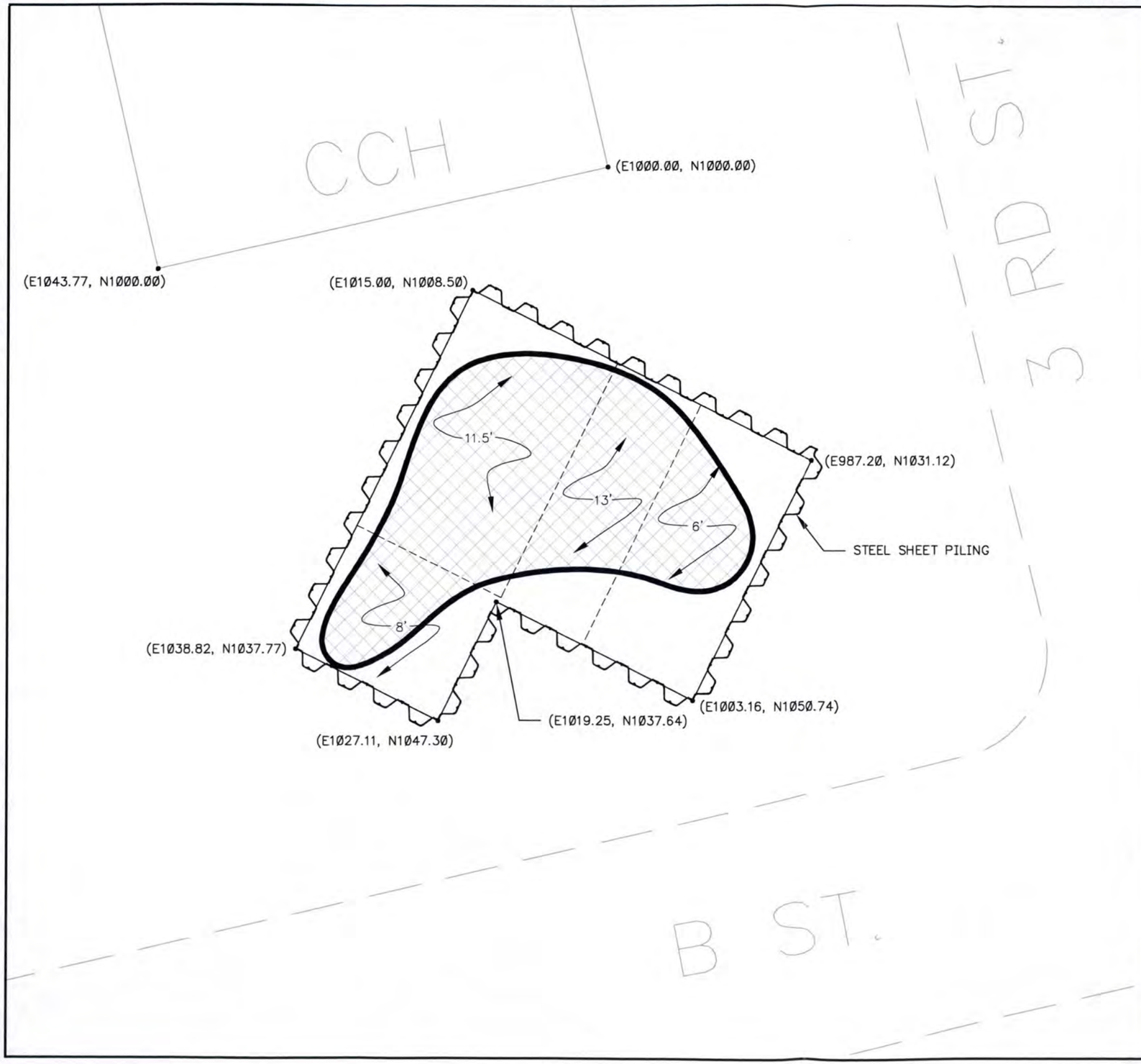
URS

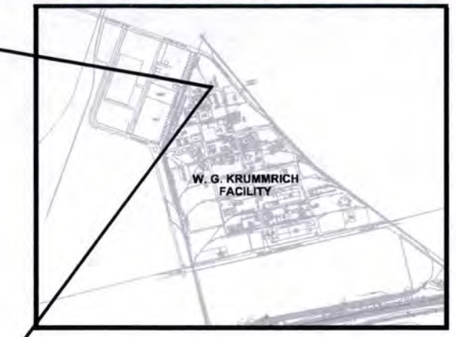
DRN. BY: djd 2/24/09
DSGN. BY: mpm
CHKD. BY: tja

Identification of Soils Requiring Excavation

FIG. NO. 1

File: P:\ENVIRONMENTAL\21562122 MERCURY AREA EXCAVATION\E-CONSTRUCTION COMPLETION REPORT\CCR FIGURES\POST EXCAVATION FIGURES\FIGURE 1 IDENTIFICATION OF SOILS REQUIRING EXCAVATION.DWG Last edited: 02/24/09 @ 1:11 p.m. WC-ST.LOUIS, MO





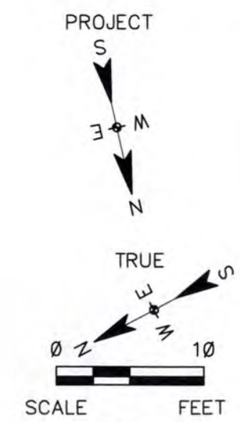
LEGEND

(E1000.00, N1000.00) ● PROJECT COORDINATE POINT FOR CONSTRUCTION PLAN (EASTING, NORTHING)

AREA OF SOIL CONTAINING MERCURY EXCEEDING THE DIRECT CONTACT VALUE (>61mg/kg)

NUMBER REPRESENTS PROPOSED EXCAVATION DEPTH BELOW GROUND SURFACE

NOTE:
GRADE ELEVATION IS 410.00'.

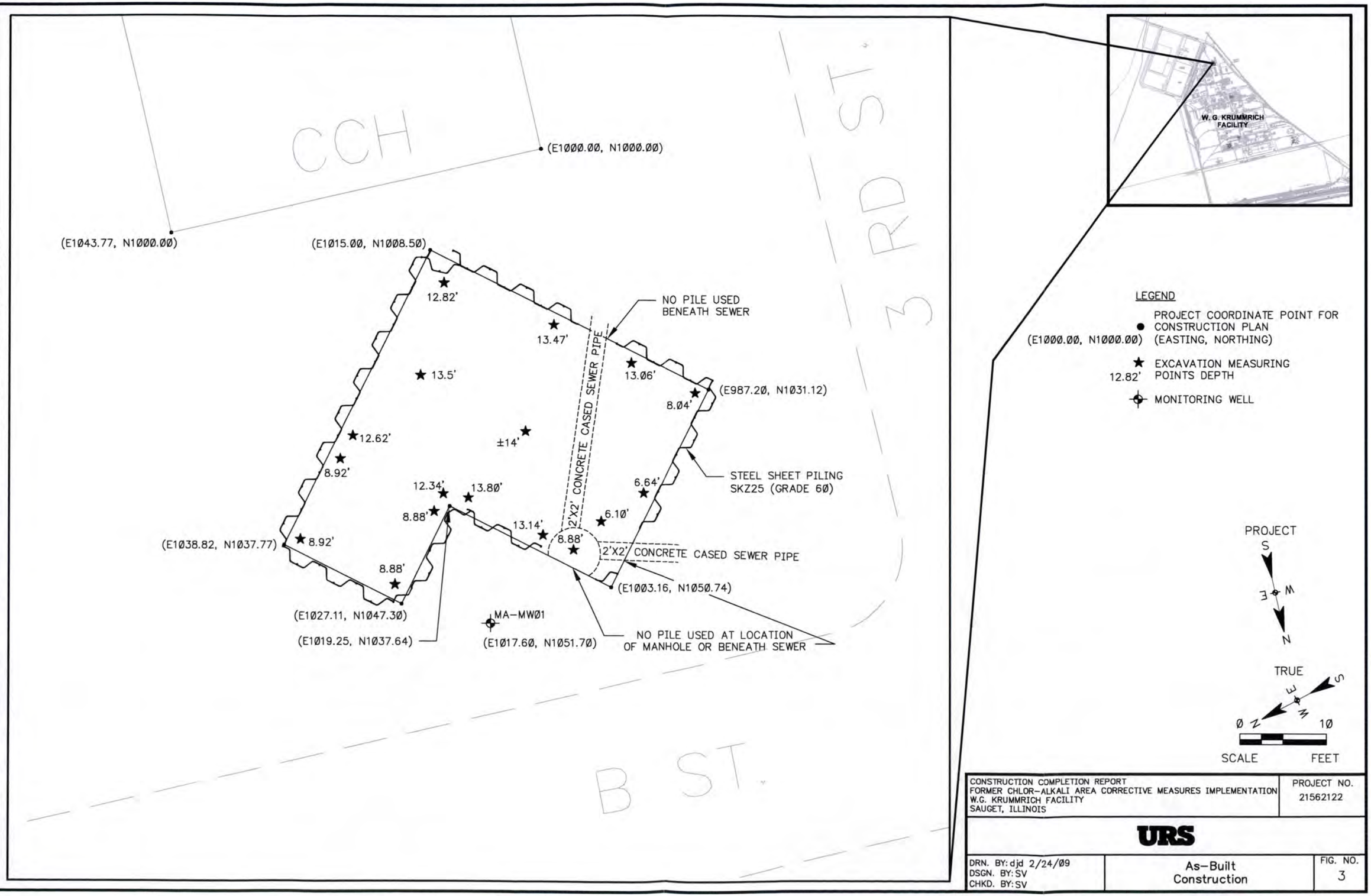


CONSTRUCTION COMPLETION REPORT FORMER CHLOR-ALKALI AREA CORRECTIVE MEASURES IMPLEMENTATION W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562122

URS

DRN. BY: djd 2/24/09 DSGN. BY: SV CHKD. BY: SV	Construction Plan (With Project Coordinates)	FIG. NO. 2

File: P:\ENVIRONMENTAL\21562122 MERCURY AREA EXCAVATION\C-CONSTRUCTION COMPLETION REPORT\CCR FIGURES\POST EXCAVATION FIGURES\FIGURE 2 CONSTRUCTION PLAN (WITH PROJECT COORDINATES).DWG Last edited: 02/25/09 @ 4:18 p.m. WC-ST.LOUIS, MO



CONSTRUCTION COMPLETION REPORT FORMER CHLOR-ALKALI AREA CORRECTIVE MEASURES IMPLEMENTATION W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS	PROJECT NO. 21562122

URS

DRN. BY: djd 2/24/09 DSGN. BY: SV CHKD. BY: SV	As-Built Construction	FIG. NO. 3

File: P:\ENVIRONMENTAL\21562122 MERCURY AREA EXCAVATION\E-CONSTRUCTION COMPLETION REPORT\CCR FIGURES\POST EXCAVATION FIGURES\FIGURE 3 AS-BUILT SHEET PILE DESIGN.DWG Last edited: 02/25/09 @ 4:09 p.m. WC-ST.LOUIS, MO

ATTACHMENTS

ATTACHMENT A

PHOTOGRAPHIC LOG

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
1	02/04/09

Description:

View looking east at area to be excavated.

Photo No.	Date:
2	02/04/09

Description:

Photograph of worker taking measurements to confirm layout of area to be excavated.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
3	02/04/09

Description:

Photograph of initial trenching to expose potential obstructions to the sheet piling installation.

Photo No.	Date:
4	02/05/09

Description:

Photograph of sheet piling installation.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
5	02/06/09

Description:

View looking south at completion of sheet piling installation.

Photo No.	Date:
6	02/06/09

Description:

Photograph of heavy equipment excavating soil from within sheet piling.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
7	02/09/09

Description:

Photograph of truck loading operation during excavation.

Photo No.	Date:
8	02/10/09

Description:

Photograph of method used for depth confirmation.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
9	02/10/09

Description:

Photograph of the start of backfill activities.

Photo No.	Date:
10	02/11/09

Description:

View of operator completing compaction via remote controlled vibratory sheep's foot roller.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
11	02/12/09

Description:

Photograph of compaction being completed with smooth drum roller.

Photo No.	Date:
12	02/12/09

Description:

Photograph of remaining sheet piling following excavation and backfill activities (subsequently cut off 1 foot below ground surface).

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Solutia Inc.	Sauget, Illinois	21562122

Photo No.	Date:
13	02/17/09

Description:

Photograph of surface compaction with smooth drum roller.

Photo No.	Date:
14	02/17/09

Description:

View looking southwest at excavation area following backfill.

ATTACHMENT B
WASTE MANIFESTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL000002702
2. Page 1 of
3. Emergency Response Phone: 618-482-6476
4. Manifest Tracking Number: 005114555 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6540

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Laforte Trucking (618) 610-7529 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miram RDF
901 Madison Rd
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yds	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026191L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: x Brett D. Shank
Signature:
Month Day Year: 02 09 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: x Gary Hewell
Signature:
Month Day Year: 02 09 09
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: L Snyder
Signature:
Month Day Year: 2 9 09

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6783

Original 5313830
Ticket# 679441

Customer Name PANGER INC PANGER INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114555
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 20.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 08:52:41	SCALE1	LSNYDERS		Gross	63560 lb*
Out	02/09/2009 08:52:41		LSNYDERS		Tare	31820 lb*
					Net	31740 lb
			* Manual Weight		Tons	15.87

Comments PROFILE WASN'T IN SYSTEM

Product	LDX	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	15.87	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL D000602702
2. Page 1 of
3. Emergency Response Phone: 618-482-6423
4. Manifest Tracking Number: 005114556 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget, IL 62201 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Calore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Not Hazardous by DOT-Contaminated Soil	001		12 yds	CY			
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Profile: 1076198

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature:
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: L Snyders
Signature:
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313334
Ticket# 679446

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114556
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 20.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 08:58:19	SCALE1	LSNYDERS		Gross	69780 lb*
Out	02/09/2009 09:13:25	SCALE1	LSNYDERS		Tare	31900 lb
			* Manual Weight		Net	37880 lb
					Tons	18.94

Comments PROFILE WASN'T IN SYSTEM

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	18.94	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6473
4. Manifest Tracking Number: 005114557 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482 6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610 7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
901 Madison St.
East St. Louis, IL 62201 (618) 271 6758 IL ID # 1030450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yds	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026191L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert Tobin
Signature:
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: L Sanders
Signature:
Month 2 Day 9 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313831
Ticket# 679444

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114557
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 20.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 08:56:52	SCALE1	LSNYDERS		Gross	71260 lb*
Out	02/09/2009 08:56:52		LSNYDERS		Tare	33960 lb*
					Net	37300 lb
			* Manual Weight		Tons	18.65

Comments PROFILE WASN'T IN SYSTEM

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	18.65	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number ILL000802702	2. Page 1 of	3. Emergency Response Phone 618 482-6479	4. Manifest Tracking Number 005114558 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Calore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RCF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yds		
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Ryan Schl[illegible]
Signature: [signature]
Month Day Year

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: J. Snyders
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313835
Ticket# 679443

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114558
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T-T1 Volume 20.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 08:55:07	SCALE1	LSNYDERS		Gross	59200 lb*
Out	02/09/2009 09:15:12	SCALE1	LSNYDERS		Tare	30000 lb
					Net	29200 lb
			* Manual Weight		Tons	14.60

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons--	100	14.60	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802702		618-482-6478	005114559 JJK

5. Generator's Name and Mailing Address
Sauget Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 452-6045
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miram RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6766 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yds	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Britt D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: GARY HENSON
Signature: Gary Henson
Month 02 Day 09 Year 09

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature: [signature]
Month 02 Day 09 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF

5321742

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6780

Ticket# 679485

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114559
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 09:54:57	SCALE2	SCOLLINS		Gross	63320 lb
Out	02/09/2009 09:54:57		SCOLLINS		Tare	31820 lb
					Net	31500 lb
					Tons	15.75

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	15.75	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802702		618-482-6478	005114560 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6646
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Tabora Trucking (618) 810-7329 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert Tobin
Signature: [signature]
Month 02 Day 09 Year 09

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 02 Day 09 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF

5321743

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679486

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114560
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 09:56:31	SCALE2	SCOLLINS		Gross	66460 lb
Out	02/09/2009 09:56:31		SCOLLINS		Tare	33960 lb
					Net	32500 lb
					Tons	16.25

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.25	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000803702		618-482-6478	005114561 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62203 (618) 482-5645
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lofure Trucking (618) 616-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd3	01	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shark
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Allen Richter
Signature: [signature]
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313340
Ticket# 679488

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114561
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 10:00:14	SCALE1	LSNYDERS		Gross	60700 lb
Out	02/09/2009 10:00:14		LSNYDERS		Tare	31900 lb
					Net	28800 lb
					Tons	14.40

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	14.40	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000302702		618-482-6478	005114562 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Cedora Trucking (618) 510-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RCF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6785 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NH Hazardous by DOT Contaminated Soil	001		12+13	OT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1026194

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible]
Signature: [signature]
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

5321749

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679494

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114562
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 100-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T-T1 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator				
In	02/09/2009 10:05:48	SCALE2	SCOLLINS	Inbound	Gross	62040 lb
Out	02/09/2009 10:05:48		SCOLLINS		Tare	30000 lb
					Net	32040 lb
					Tons	16.02

Comments

	Product	LDM	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.02	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802703		618-482-6478	005114563 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6645
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630460001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd3	01	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shuk
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Clayton Bertelsman
Signature: [signature]
Month 02 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 02 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313855
Ticket# 679514

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114563
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 10:25:39	SCALE1	LSNYDERS		Gross	44680 lb
Out	02/09/2009 10:39:05	SCALE1	LSNYDERS		Tare	22180 lb
					Net	22500 lb
					Tons	11.25

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	11.25	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: ILD000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6478	4. Manifest Tracking Number: 005114564 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Latore Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Miram RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile 1026198

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shenk — Signature: [signature] — Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dennis Shelton — Signature: [signature] — Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: L. Snyder — Signature: [signature] — Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313856
Ticket# 679517

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114564
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 10:28:42	SCALE1	LSNYDERS		Gross	45680 lb
Out	02/09/2009 10:40:22	SCALE1	LSNYDERS		Tare	22440 lb
					Net	23240 lb
					Tons	11.62

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	11.62	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 113 10:35

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL5000002702
2. Page 1 of
3. Emergency Response Phone: (618) 482-6478
4. Manifest Tracking Number: 005114565 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6546

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 810-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
801 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1030450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12-10	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026198L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: GARY HENSON
Signature:
Month 02 Day 09 Year

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF

5321768

501 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679539

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114565
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:03:39	SCALE2	SCOLLINS		Gross	67560 lb
Out	02/09/2009 11:03:39		SCOLLINS		Tare	31820 lb
					Net	35740 lb
					Tons	17.87

Comments

Product		LD/4	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	17.87	Tons				IL

Total Fees
Total Ticket

Driver's Signature
403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 103 10.40

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: IL0000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6478	4. Manifest Tracking Number: 005114566 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62200 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Store Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026 Bit

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank — Signature: [signature] — Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Bob Tobin — Signature: [signature] — Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 2 Day 9 Year 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313866
Ticket# 679542

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114566
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:07:07	SCALE1	LSNYDERS		Gross	73720 lb
Out	02/09/2009 11:07:07		LSNYDERS		Tare	33960 lb
					Net	39760 lb
					Tons	19.88

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons--	100	19.88	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 114 1040

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000302702		618-482-6478	005114567 JJK

5. Generator's Name and Mailing Address
Solutia Inc
200 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 810-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-0788 IL ID # 1030450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026191

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: x Allan Richter
Signature: Allan Richter
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: L Snyder S
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313867
Ticket# 679547

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114567
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:11:43	SCALE1	LSNYDERS		Gross	69100 lb
Out	02/09/2009 11:11:43		LSNYDERS		Tare	31900 lb
					Net	37200 lb
					Tons	18.60

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	18.60	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: IL0000807702	2. Page 1 of	3. Emergency Response Phone: 618 482-6470	4. Manifest Tracking Number: 005114568 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62205 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Estore Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6783 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 10/619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank — Signature: [signature] — Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [signature] — Signature: [signature] — Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature] — Signature: [signature] — Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

5321773

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679554

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114568
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T-T1 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:20:23	SCALE2	SCOLLINS		Gross	66620 lb
Out	02/09/2009 11:20:23		SCOLLINS		Tare	30000 lb
					Net	36620 lb
					Tons	18.31

Comments

Product	LDM	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	18.31	Tons				IL

Total Fees
Total Ticket

Driver's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL D000802702		618-482-6478	005114569 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62206 (618) 407-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7979 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: x Clayton Bertelsman
Signature: [signature]
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Original

WASTE MANAGEMENT

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

5321774

Ticket# 679556

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114569
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:22:06	SCALE2	SCOLLINS		Gross	49160 lb
Out	02/09/2009 11:22:06		SCOLLINS		Tare	22180 lb
					Net	26980 lb
					Tons	13.49

Comments

Product		LO%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons	100	13.49	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL 0000302702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114570 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6478

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Hauling (618) 910-7979 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miam RLF
901 Madison Rd
East St Louis, IL 62201 (618) 271-6738 IL ID # 1610450001
Facility's Phone:
U.S. EPA ID Number

GENERATOR

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1080180

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton
Signature:
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313874
Ticket# 679563

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114570
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 11:27:04	SCALE1	LSNYDERS		Gross	45800 lb
Out	02/09/2009 11:27:04		LSNYDERS		Tare	22440 lb
					Net	23360 lb
					Tons	11.68

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	11.68	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: ILD000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6478	4. Manifest Tracking Number: 005114571 JJK

GENERATOR

5. Generator's Name and Mailing Address
Sorona Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Latore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6780 IL ID # 1620450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X GARY HENSON
Signature: Gary Henson
Month 02 Day 09 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature: [signature]
Month 02 Day 09 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Original

5321320

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679549

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114571
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:57:12	SCALE2	SCOLLINS		Gross	65300 lb
Out	02/09/2009 12:57:12		SCOLLINS		Tare	31820 lb
					Net	33480 lb
					Tons	16.74

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.74	Tons				IL

Total Fees
Total Ticket

D403WM-N s Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: ILD000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6478	4. Manifest Tracking Number: 005114572 JJK

5. Generator's Name and Mailing Address
Sotufia Inc
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking (618) 810-7929 IL ID # 5014 — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam ROF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 7630450021
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1025 Hill

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank — Signature: [signature] — Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bob Tobin — Signature: [signature] — Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature] — Signature: [signature] — Month 2 Day 9 Year 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313893
Ticket# 679650

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114572
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:58:49	SCALE1	LSNYDERS		Gross	71900 lb
Out	02/09/2009 12:58:49		LSNYDERS		Tare	33960 lb
					Net	37940 lb
					Tons	18.97

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	18.97	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number IL0000002702	2. Page 1 of	3. Emergency Response Phone 618-482-0478	4. Manifest Tracking Number 005114573 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafone Trucking (618) 610-7929 IL ID # 501*

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6755 IL ID # 1030450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	BT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1025191L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Ryan Schlemmer
Signature:
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: J Snyder
Signature: J Snyder
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313890
Ticket# 679640

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114573
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T1 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:47:08	SCALE1	LSNYDERS		Gross	61040 lb
Out	02/09/2009 12:47:08		LSNYDERS		Tare	29660 lb
					Net	31380 lb
					Tons	15.69

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	15.69	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number ILD008602702	2. Page 1 of	3. Emergency Response Phone 618-482-5478	4. Manifest Tracking Number 005114574 JJK

5. Generator's Name and Mailing Address
Sandie Inc.
500 Monsanto Ave
Sauget, IL 62206 (618) 482-0545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Calore Trucking (618) 610-7029 IL ID # 5011

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RLF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6782 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 109109L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shmk
Signature:
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Allen Richter
Signature: Allen Richter
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: L. Snyder S
Signature:
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313887
Ticket# 679632

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114574
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:41:57	SCALE1	LSNYDERS		Gross	70400 lb
Out	02/09/2009 12:41:57		LSNYDERS		Tare	31900 lb
					Net	38500 lb
					Tons	19.25

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	19.25	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802703		618-482-6479	005114575 JJK

GENERATOR

5. Generator's Name and Mailing Address
Soluse Inc
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RCF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-5758 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Lysate 1620194L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Clayton Bertelsman
Signature: [signature]
Month 2 Day 5 Year 9

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

5321815

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679641

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114575
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing #: 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:50:23	SCALE2	SCOLLINS		Gross	49360 lb
Out	02/09/2009 12:50:23		SCOLLINS		Tare	22180 lb
					Net	27180 lb
					Tons	13.59

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	13.59	Tons				IL

Total Fees
Total Ticket

D403WM-N's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-482-6476	005114576 JJK

5. Generator's Name and Mailing Address
Salume Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 432-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miami RDC
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6783 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Vol Hazardous by DOT Contaminated Soil	001		8yd³	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile 1026191

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dennis Shelton
Signature: [signature]
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313891
Ticket# 679645

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114576
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 12:53:07	SCALE1	LSNYDERS		Gross	42380 lb
Out	02/09/2009 12:53:07		LSNYDERS		Tare	22440 lb
					Net	19940 lb
					Tons	9.97

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	9.97	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-432-6478	005114577 JJK

GENERATOR

5. Generator's Name and Mailing Address
Scruba Inc.
500 Monsanto Ave.
Sauger, IL 62206 (618) 432-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Latora Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miami RLI
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6733 IL ID # 1830450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026196

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature: Allan Richter
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313913
Ticket# 679673

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114577
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 13:36:41	SCALE1	LSNYDERS		Gross	70340 lb
Out	02/09/2009 13:36:41		LSNYDERS		Tare	31900 lb
					Net	38440 lb
					Tons	19.22

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	19.22	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-482-6478	005114578 JJK

GENERATOR

5. Generator's Name and Mailing Address
Scotts Inc.
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 510-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 277-6288 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	01	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1026195

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ryan Schlemmer
Signature: [signature]
Month 2 Day 5 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313916
Ticket# 679680

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114578
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T1 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 13:41:45	SCALE1	LSNYDERS		Gross	65780 lb
Out	02/09/2009 13:41:45		LSNYDERS		Tare	29660 lb
					Net	36120 lb
					Tons	18.06

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	18.06	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-482-6478	005114579 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62205 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID# 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miami ROE
501 Madison Rd
East St. Louis, IL 62201 (618) 271-6783 IL ID# 1680450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. for Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1626191

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Clayton Bertelsman
Signature: [signature]
Month 2 Day 5 Year 5

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: J Snyder S
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Origina 5313918
Ticket# 679685

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114579
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 13:45:13	SCALE1	LSNYDERS		Gross	43720 lb
Out	02/09/2009 13:45:13		LSNYDERS		Tare	22180 lb
					Net	21540 lb
					Tons	10.77

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	10.77	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000902702
2. Page 1 of
3. Emergency Response Phone: 618-482-0478
4. Manifest Tracking Number: 005114580 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62201 (618) 482-8545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafone Trucking (618) 510-7029 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miami SLF
501 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026198

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton
Signature:
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: L Sanders
Signature:
Month 02 Day 09 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313920
Ticket# 679690

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114580
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 13:48:12	SCALE1	LSNYDERS		Gross	45200 lb
Out	02/09/2009 13:48:12		LSNYDERS		Tare	22440 lb
					Net	22760 lb
					Tons	11.38

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	11.38	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL D000802702		618 482 6478	005114581 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile 1026196

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X GARY HENSON
Signature: [signature]
Month 02 Day 09 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: X
Signature: [signature]
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

532183

WASTE MANAGEMENT
Original

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679698

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114581
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 13:56:23	SCALE2	SCOLLINS		Gross	64440 lb
Out	02/09/2009 13:56:23		SCOLLINS		Tare	31820 lb
					Net	32620 lb
					Tons	16.31

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.31	Tons				IL

Total Fees
Total Ticket

403WM-N Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000302702		618-482-6478	005114582 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd3	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102610IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Bob Tobin
Signature: [signature]
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: L Snyders
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313925
Ticket# 679705

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114582
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:01:55	SCALE1	LSNYDERS		Gross	63640 lb
Out	02/09/2009 14:01:55		LSNYDERS		Tare	33960 lb
					Net	29680 lb
					Tons	14.84

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	14.84	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114583 JJK

5. Generator's Name and Mailing Address
Solutia, Inc.
500 Monsanto Ave.
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafare Trucking (618) 670-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RCF
501 Madison Rd.
East St. Louis, IL 62201 (618) 271-0788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026198

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: BDS
Month 02 Day 09 Year 09

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature: Allan Richter
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sudeys
Signature:
Month 2 Day 4 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313934
Ticket# 679721

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114583
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:27:19	SCALE1	LSNYDERS		Gross	70080 lb
Out	02/09/2009 14:27:19		LSNYDERS		Tare	31900 lb
					Net	38180 lb
					Tons	19.09

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	19.09	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: IL D000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6473	4. Manifest Tracking Number: 005114584 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RCF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6708 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12yd3	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1025 19IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank — Signature: [signature] — Month 02 Day 09 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Ryan Schlemmer — Signature: [signature] — Month 7 Day 9 Year 09
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 12 Day 9 Year 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313941
Ticket# 679729

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114584
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T-T1
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

Volume 12.0

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:36:46	SCALE1	SCOLLINS		Gross	63180 lb
Out	02/09/2009 14:36:46		SCOLLINS		Tare	30000 lb
					Net	33180 lb
					Tons	16.59

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.59	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802702		618-482-6478	005114585 JJK

GENERATOR

5. Generator's Name and Mailing Address
Sinuta Inc.
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5914

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miliam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1830450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1026191

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Clayton Bertelsman
Signature: [signature]
Month Day Year

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature: [signature]
Month 2 Day 1 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313942
Ticket# 679730

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114585
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:38:37	SCALE1	SCOLLINS		Gross	49380 lb
Out	02/09/2009 14:38:37		SCOLLINS		Tare	22180 lb
					Net	27200 lb
					Tons	13.60

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	13.60	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: ILD000202702	2. Page 1 of	3. Emergency Response Phone: 618-482-6478	4. Manifest Tracking Number: 005114586 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Calore Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1020198

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank — Signature: [signature] — Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton — Signature: [signature] — Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313944
Ticket# 679732

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114586
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:41:10	SCALE1	SCOLLINS		Gross	45840 lb
Out	02/09/2009 14:41:10		SCOLLINS		Tare	22440 lb
					Net	23400 lb
					Tons	11.70

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	11.70	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL D000802702
2. Page 1 of
3. Emergency Response Phone: 618 482 6470
4. Manifest Tracking Number: 005114587 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave.
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafarge Trucking (618) 616-7929 IL ID# 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St Louis, IL 62201 (618) 271-6758 IL ID# 1930450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NA1 Hazardous by DOT Contaminated Soil	001		12 yd³	BT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026190

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 09 Year 09

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X GARY HENSON
Signature:
Month 02 Day 09 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

TRANSPORTER

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year 2 17 09

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313949
Ticket# 679741

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114587
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:48:47	SCALE1	SCOLLINS		Gross	70400 lb
Out	02/09/2009 14:48:47		SCOLLINS		Tare	31820 lb
					Net	38580 lb
					Tons	19.29

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	19.29	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000002700
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114588 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Clarke Trucking (618) 610-7929 IL ID# 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miami RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6733 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd3	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1028191L

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello
Signature: Tom Castello
Month | Day | Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Bob Tobin
Signature:
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name:
Signature:
Month | Day | Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month | Day | Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313955
Ticket# 679748

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114588
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 14:56:51	SCALE1	SCOLLINS		Gross	66860 lb
Out	02/09/2009 14:56:51		SCOLLINS		Tare	33960 lb
					Net	32900 lb
					Tons	16.45

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.45	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-482-6478	005114589 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 616-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1030450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello
Signature: Tom Castello
Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Allan Richter
Signature: Allan Richter
Month 2 Day 9 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month 2 Day 9 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original Ticket# 679784 5313978

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114589
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:30:05	SCALE1	SCOLLINS		Gross	66900 lb
Out	02/09/2009 15:30:05		SCOLLINS		Tare	31900 lb
					Net	35000 lb
					Tons	17.50

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	17.50	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000302702
2. Page 1 of
3. Emergency Response Phone: 618-482-6476
4. Manifest Tracking Number: 005114590 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6540

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Clarke Trucking (618) 610-7929 IL ID # 5017
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-8778 IL ID # 1630150001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026198L

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello
Signature: Tom Castello
Month Day Year

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: N. Vivian Lentelsman
Signature:
Month Day Year: 12 5 5
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year: 12 7 05

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313987
Ticket# 679799

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114590
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 36 Volume 10.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:42:05	SCALE1	SCOLLINS		Gross	44820 lb
Out	02/09/2009 15:42:05		SCOLLINS		Tare	22180 lb
					Net	22640 lb
					Tons	11.32

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	11.32	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802702		618-482-6478	005114591 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
001 Madison Rd.
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630480001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026198

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello
Signature: Tom Castello
Month Day Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Ryan Schlemmer
Signature: [signature]
Month 2 Day 9 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 9 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5313985
Ticket# 679795

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 000511459J
Destination
PO
Profile 1026191L (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier SCHAEFER TRUCKING
Vehicle# 10T-T1 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:39:06	SCALE1	SCOLLINS		Gross	64760 lb
Out	02/09/2009 15:39:06		SCOLLINS		Tare	30000 lb
					Net	34760 lb
					Tons	17.38

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	17.38	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000602702		618-482-6478	005114592 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62203 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Latore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Miller ROF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-0788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		8 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102619IL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello
Signature: Tom Castello
Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton
Signature: Dennis Shelton
Month Day Year: 2 9 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year: 2 9 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Origina 5313388
Ticket# 679800

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114592
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:43:28	SCALE1	SCOLLINS		Gross	42720 lb
Out	02/09/2009 15:43:28		SCOLLINS		Tare	22440 lb
					Net	20280 lb
					Tons	10.14

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	10.14	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000902702
2. Page 1 of
3. Emergency Response Phone: 618-482-6473
4. Manifest Tracking Number: 005114593 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
800 Monsanto Ave.
Sauget, IL 62206 (618) 482-6546
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
LaFore Trucking (618) 010-7229 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
801 Madison Rd.
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³				
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Profile 1026188

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brit D. Shank
Signature:
Month 02 Day 09 Year 09

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: ~~Tom Costello~~
Signature:
Month Day Year

Transporter 2 Printed/Typed Name: X Bob Tuber
Signature:
Month 2 Day 9 Year 09

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)

Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original Ticket# 679805 5313994

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114593
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:52:22	SCALE1	SCOLLINS		Gross	63040 lb
Out	02/09/2009 15:52:22		SCOLLINS		Tare	33960 lb
					Net	29080 lb
					Tons	14.54

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	14.54	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: ILC000802702	2. Page 1 of	3. Emergency Response Phone: 618-482-6476	4. Manifest Tracking Number: 005114594 JJK

GENERATOR

5. Generator's Name and Mailing Address
Sohtie Inc.
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6540
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Calore Trucking (618) 610-7929 IL ID # 5014 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St. Louis, IL 62201 (618) 271-6705 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 10261PIL

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Tom Castello — Signature: [signature] — Month 02 Day 09 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Gary Henson — Signature: [signature] — Month 02 Day 09 Year 09

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature] — Signature: [signature] — Month 02 Day 09 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 531399
Ticket# 679804

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/09/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114594
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/09/2009 15:50:37	SCALE1	SCOLLINS		Gross	63100 lb
Out	02/09/2009 15:50:37		SCOLLINS		Tare	31820 lb
					Net	31280 lb
					Tons	15.64

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	15.64	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

2/10/09

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802702		618-482-6478	002173992 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 monsanto Ave.
Sauget, IL 62206
Generator's Phone: 618-482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LA Force Trucking [illegible] U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name: U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St Louis IL 62201
Facility's Phone: 618-271-6788
ILID# 1630450001
U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT Hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4. 511 4600 3 5321942		11.52			

14. Special Handling Instructions and Additional Information
[illegible]
193.94

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** *I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.*
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bob Tobin
Signature: [signature]
Month 2 Day 10 Year 09
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 2 Day 10 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Original

5321904

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 580063

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 002173992
Destination
PO
Profile 102612IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 12:03:58	SCALE2	SCOLLINS		Gross	69960 lb
Out	02/10/2009 12:09:58		SCOLLINS		Tare	33960 lb
					Net	36000 lb
					Tons	18.00

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	18.00	Tons				IL

Total Fees
Total Ticket

0A03WM-N's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD008027702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 002173993 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget IL 62206 618-482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking 618-610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St Louis IL 62201 618-271-6788
IL ID # 1630450001
U.S. EPA ID Number
Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102619IL

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature:
Month 10 Day 10 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Driver's Signature

WASTE MANAGEMENT

5321918

Milam RDF

Original

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 680087

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 008173993
Destination
PO
Profile 102619JL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 12:39:16	SCALE2	SCOLLINS		Gross	62080 lb
Out	02/10/2009 12:39:16		SCOLLINS		Tare	31900 lb
					Net	30180 lb
					Tons	15.09

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons	100	15.09	Tons				IL

Total Fees
Total Ticket

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 002173994 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget IL 62206
Generator's Phone: 618-482-6545
Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking 618-610-7929 IL ID# 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd.
East St Louis IL 62201
Facility's Phone: 618-271-6788
IL ID# 1630450001
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT hazardous by DOT Contaminated Soil	001		12 yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026191L

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: BDS
Month 02 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gary Henson
Signature: Gary Henson
Month 02 Day 10 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year 02 10 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

er's Signature

WASTE MANAGEMENT

Milam RDF

5321919

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 680090

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 002173994
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 12:44:42	SCALE2	SCOLLINS		Gross	66520 lb
Out	02/10/2009 12:44:42		SCOLLINS		Tare	31820 lb
					Net	34700 lb
					Tons	17.35

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	17.35	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

99

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000302702		618-482-0478	005114602 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (If different than mailing address)

6. Transporter 1 Company Name
Calore Trucking (618) 510-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St Louis, IL 62201 (618) 271-8736 IL ID # 16304/20001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	01	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 1026198

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 2 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gary Hudson
Signature: [signature]
Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF

5321898

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 680016

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114602
Destination
PO
Profile 1026191L (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 11:11:02	SCALE2	SCOLLINS		Gross	69440 lb
Out	02/10/2009 11:11:03		SCOLLINS		Tare	31820 lb
					Net	37620 lb
					Tons	18.81

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	18.81	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ILD000802701		618-482-6478	005114595 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62205 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Latore Trucking (618) 610-7920 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1100450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd^3	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102019L

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 2 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Allan Richter
Signature: Allan Richter
Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: L Snyder S
Signature: [signature]
Month 2 Day 10 Year 09

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5325048
Ticket# 679911

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114595
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 08:40:13	SCALE1	LSNYDERS		Gross	67040 lb
Out	02/10/2009 08:40:13		LSNYDERS		Tare	31900 lb
					Net	35140 lb
					Tons	17.57

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	17.57	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	IL0000802702		618-482-6472	005114596 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave
Sauget, IL 62205 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6782 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd^3	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1020198

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 02 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: x GARY HENSON
Signature: [signature]
Month 02 Day 10 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5325049
Ticket# 679916

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114596
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 08:49:39	SCALE1	LSNYDERS		Gross	54040 lb
Out	02/10/2009 08:49:39		LSNYDERS		Tare	31820 lb
					Net	22220 lb
					Tons	11.11

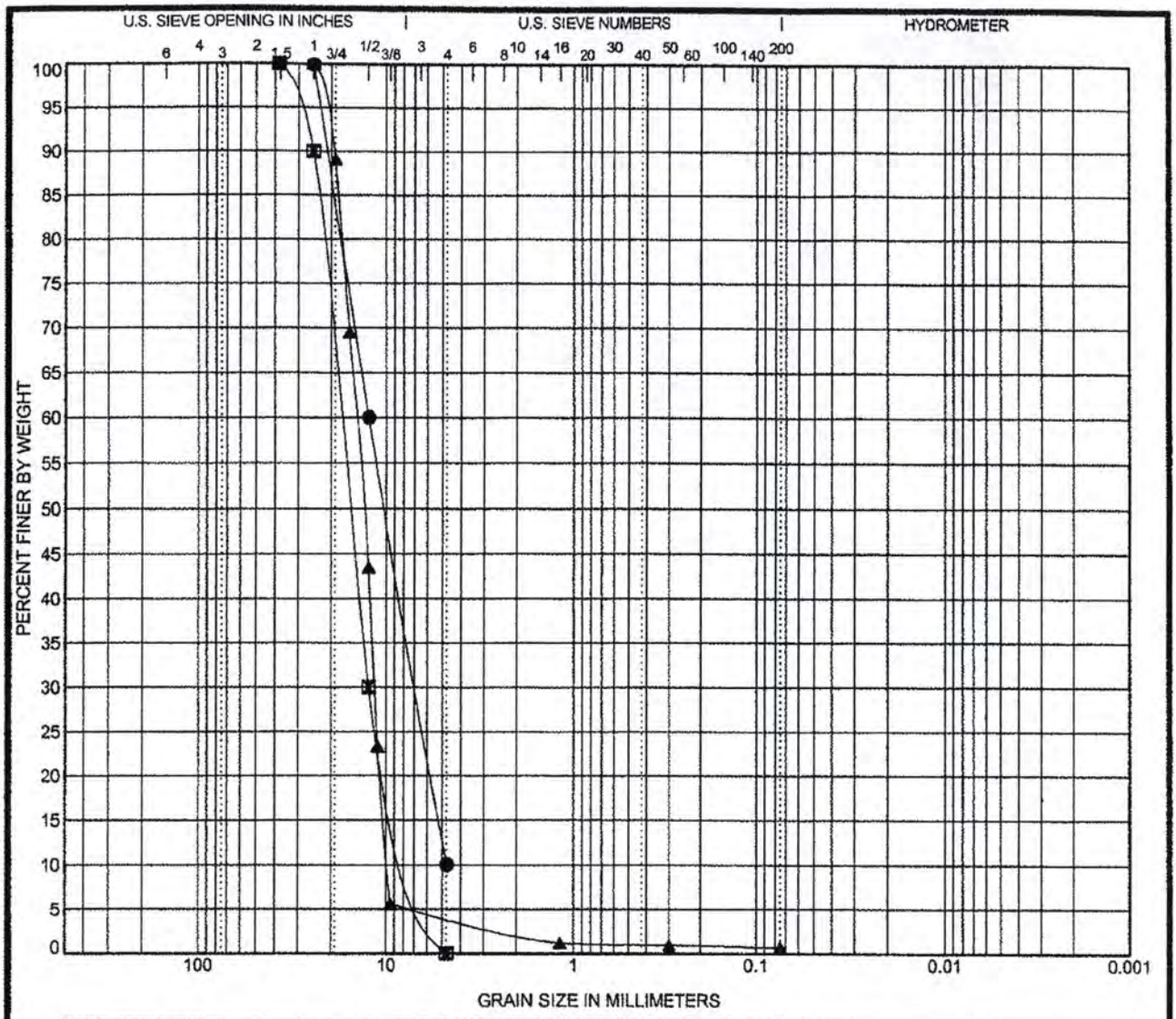
Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc--Tons-	100	11.11	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**Max Spec**	**0**					**0.82**	**2.63**
⊠	**Min Spec**	**0**					**1.35**	**2.70**
▲	**Sample**	**0**					**0.93**	**1.48**

	Specimen ID		Date	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**Max Spec**	**0**	**2/10/2009**	**38.1**	**12.5**	**6.995**	**4.75**	**90.0**			
⊠	**Min Spec**	**0**	**2/10/2009**	**38.1**	**17.678**	**12.5**	**6.558**	**100.0**			
▲	**Sample**	**0**	**2/10/2009**	**25**	**14.62**	**11.616**	**9.897**	**95.9**	**3.5**	**0.6**	

SCI Engineering, Inc.
650 Pierce Blvd.
O'Fallon, Illinois 62269
Telephone: 618-624-6969
Fax: 618-624-7099

GRAIN SIZE DISTRIBUTION

Project Name: Solutia Chrlor/Alky Remediation

Contract No: Sauget, Illinois
SCI Project No.: 2009-3040.00

SCI ENGINEERING, INC.

CONSULTANTS IN DEVELOPMENT,
DESIGN AND CONSTRUCTION
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

Sieve Analysis - Gradation by Weight
Solutia Chrlor/Alky Remediation
SCI No. 2009-3040.00
Falling Springs Quarry - CM7

Moisture Content	
Wet Weight (g)	7177.0
Tare No.:	B-1
Tare Weight (gms):	504.0
Dry Weight (gms):	6673.0
%Moisture	8.2

Sample Received: 2/10/2009
Sample Tested: 2/10/2009

U.S. Standard Sieve Size	Weight Retained (grams)	Cumulative Weight Retained (grams)	Cumulative Percent Retained	Percent Passing	Specification Percent Passing
1.5 inch	0	0	0	100	100
1 inch	0	0	0	100	90-100
3/4 inch	726	726	11	89	-
5/8 inch	1308	2034	30	70	-
1/2 inch	1738	3772	57	43	30-60
3/8 inch	1346	5118	77	23	-
No. 4	1182	6300	94	6	0-10
No. 16	295	6595	99	1	-
No. 50	16	6611	99	1	-
No. 200	21.5	6633	99	1	-
Pan	40.0	6673	100	0	-

ATTACHMENT C

BACKFILL MATERIAL INFORMATION

ach waste and the
ate abbreviation from Table I

EMENT

Milam RDF

5322371

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6780

Ticket# 681706

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/17/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 002173997
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T102 Volume 20.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/17/2009 10:56:46	SCALE2	SCOLLINS		Gross	40280 lb
Out	02/17/2009 10:56:46		SCOLLINS		Tare	33160 lb
					Net	7120 lb
					Tons	3.56

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	3.56	Tons				IL

Total Fees
Total Ticket

Driver's Signature
403WM-N

102619 IL

Please print or type: (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 006802702
2. Page 1 of
3. Emergency Response Phone: 618.482.6478
4. Manifest Tracking Number: 002173997 JJK

5. Generator's Name and Mailing Address
SOLUTIA INC
500 MONSANTO AVE
SAUGET IL 62206
Generator's Phone: 618.482.6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LA FORE TRUCKING 618.610.7929 IL ID# 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
MILAM RFD
601 MADISON RD
EAST ST. LOUIS, IL. 62201 618.271.6788
IL. ID# 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT HAZARDOUS BY DOT CONTAMINATED SOIL/DEBRIS	001	YD	8	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WASTE PROFILE # 102619 IL.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: BDS
Month 02 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature: Allan Richter
Month 2 Day 17 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5325361
Ticket# 680823

Customer Name	PANGEA INC PANGEA INC	Carrier	LA FORE LAFORE TRUCK SERVICE INC
Ticket Date	02/12/2009	Vehicle#	35 Volume 8.0
Payment Type	Credit Account	Container	
Manual Ticket#		Driver	
Hauling Ticket#		Check#	
Route		Billing #	0001090
State Waste Code		Gen EPA ID	
Manifest	002173998	Grid	
Destination			
PO			
Profile	102619IL (CONTAMINATED SOIL)		
Generator	180-SOLUTIA SOLUTIA-SAUGET		

	Time	Scale	Operator	Inbound		
In	02/12/2009 15:20:21	SCALE1	SCOLLINS		Gross	59600 l
Out	02/12/2009 15:20:21		SCOLLINS		Tare	22440 l
					Net	37160 l
					Tons	18.5

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	18.58	Tons				IL

Total Fees
Total Ticket

Driver's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 000802702
2. Page 1 of
3. Emergency Response Phone: 618.482.6478
4. Manifest Tracking Number: 002173998 JJK

5. Generator's Name and Mailing Address
SOLUTIA INC
500 MONSANTO AVE
SAUGET IL 62206
Generator's Phone: 618.482.6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LA FORE TRUCKING 618.610.7929 IL ID# 5014
U.S. EPA ID Number:

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
MILAM RFD
601 MADISON RD
EAST ST LOUIS IL 62201 618.271.6788
IL ID# 1630450001
U.S. EPA ID Number:
Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT HAZARDOUS BY DOT CONTAMINATED SOIL	001	YD	8	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WASTE PROFILE # 102619 IL.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shunk
Signature:
Month 02 Day 10 Year 09

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton
Signature:
Month 2 Day 12 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Type)
s for each was
appropriate abbreviation from Table1

MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original
Ticket# 680798 5325348

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/12/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 002173996
Destination
PO
Profile 10261911L (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/12/2009 14:23:56	SCALE1	SCOLLINS		Gross	54560
Out	02/12/2009 14:23:56		SCOLLINS		Tare	22440
					Net	32120
					Tons	16.

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.06	Tons				IL

Dan Allen

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 002173996 JJK

5. Generator's Name and Mailing Address
SOLUTIA INC.
300 MONSANTO AVE
SAUGET, IL 62206
Generator's Phone: 618-482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: LA FORE TRUCKING 618-610-7929 IL ID# 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
MILAM RFD
601 MADISON RD
EAST ST. LOUIS IL. 62201
Facility's Phone: 618-271-6788
U.S. EPA ID Number: IL. ID# 163045000 1

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT HAZARDOUS BY DOT CONTAMINATED SOIL	001	YD	8	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WASTE PROFILE # 102619 IL

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 10 Year 09

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dennis Shelton
Signature:
Month 2 Day 12 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original
Ticket# 5325327

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/12/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 002173995
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 35 Volume 8.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/12/2009 13:26:49	SCALE1	SCOLLINS		Gross	57680 lb*
Out	02/12/2009 13:26:49		SCOLLINS		Tare	22440 lb*
					Net	35240 lb
			* Manual Weight		Tons	17.62

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	17.62	Tons				IL

Total Fees
Total Ticket

Driver's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 002173995 JJK

5. Generator's Name and Mailing Address
Solutia Inc.
500 Monsanto Ave.
Sauget IL 62206 618-482-6545

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name
Lafore Trucking 618-610-7929 ILID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St Louis 62201 618-271-6788
IL ID # 1630450001

U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NOT Hazardous by DOT Contaminated Soil	001			DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
102419IL

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature:
Month 02 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dennis Shelton
Signature:
Month 2 Day 12 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

5321942

Milam RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 680121

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114603
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 30T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 13:27:24	SCALE2	SCOLLINS		Gross	57000 lb
Out	02/10/2009 13:27:24		SCOLLINS		Tare	33960 lb
					Net	23040 lb
					Tons	11.52

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	11.52	Tons				IL

Total Fees
Total Ticket

Driver's Signature

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114603 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 510-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		6yd³	DT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Profile: 102019B

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: X Tom Castello — Signature: Tom Castello — Month 2 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Bob Tobin — Signature: Bob Tobin — Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: X — Signature: [signature] — Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Driver's Signature

WASTE MANAGEMENT

Milam RDF

5321891

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 600001

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114601
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 407114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound	Gross	65360 lb
In	02/10/2009 10:51:19	SCALE2	SCOLLINS		Tare	31900 lb
Out	02/10/2009 10:51:19		SCOLLINS		Net	33460 lb
					Tons	16.73

Comments

Product		LOC	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.73	Tons				0.

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6470
4. Manifest Tracking Number: 005114601 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Lafore Trucking (618) 610-7929 IL ID # 5014

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
801 Madison Rd
East St Louis, IL 62201 (618) 271-6789 IL ID # 1630450001
Facility's Phone:

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12-d3	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 102619IL

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: BDS
Month 2 Day 10 Year 09

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allan Richter
Signature: Allan Richter
Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5325076
Ticket# 679979

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114600
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 10:17:24	SCALE1	LSNYDERS		Gross	74960 lb
Out	02/10/2009 10:17:24		LSNYDERS		Tare	33960 lb
					Net	41000 lb
					Tons	20.50

Comments

Product		LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	20.50	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000802702
2. Page 1 of
3. Emergency Response Phone: 618 482-6475
4. Manifest Tracking Number: 005114600 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206
Generator's Phone: (618) 482-6545

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lakore Trucking (618) 610-7996 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Midam RDF
501 Madison Rd
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CY	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile 1026198

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Beth D. Shank
Signature
Month 2 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible]
Signature
Month 2 Day 10 Year 09
Transporter 2 Printed/Typed Name: Bob Tobin
Signature
Month 2 Day 10 Year 09

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a
Printed/Typed Name: [illegible]
Signature
Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT
Original

5321874

Milan RDF

601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Ticket# 679967

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114599
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 41T113 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 10:00:38	SCALE2	SCOLLINS		Gross	64780 lb
Out	02/10/2009 10:00:38		SCOLLINS		Tare	31820 lb
					Net	32960 lb
					Tons	16.48

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	16.48	Tons				IL

Total Fees
Total Ticket

Customer's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD000002702
2. Page 1 of
3. Emergency Response Phone: 618.482.6478
4. Manifest Tracking Number: 005114599 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauger, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 201-6788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026198

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 2 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: ~~X Dennis Shaw Clo~~ [signature]
Signature: [signature]
Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name: X GARY HENSON
Signature: Gary Henson
Month 02 Day 10 Year 09

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 10 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Original 5325069
Ticket# 679959

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114598
Destination
PO
Profile 1026191L (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTIA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 40T114 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 09:53:10	SCALE1	LSNYDERS		Gross	65480 lb
Out	02/10/2009 09:53:10		LSNYDERS		Tare	31900 lb
					Net	33580 lb
					Tons	16.79

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 Special Misc-Tons-	100	16.79	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114598 JJK

GENERATOR

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-6545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking (618) 510-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name: Same
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6738 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd ~~8 yd~~	01	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 1026199

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: BDS
Month 2 Day 10 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X [illegible]
Signature: [illegible]
Month 2 Day 10 Year 09

Transporter 2 Printed/Typed Name: X Allan Richter
Signature: Allan Richter
Month 2 Day 10 Year 09

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: J Sanders
Signature: [signature]
Month 2 Day 10 Year 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

Milam RDF
601 Madison
East St Louis, IL, 62201
Ph: (618) 271-6788

Origina 5325050
Ticket# 679919

Customer Name PANGEA INC PANGEA INC
Ticket Date 02/10/2009
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 005114597
Destination
PO
Profile 102619IL (CONTAMINATED SOIL)
Generator 180-SOLUTIA SOLUTTA-SAUGET

Carrier LA FORE LAFORE TRUCK SERVICE INC
Vehicle# 39T103 Volume 12.0
Container
Driver
Check#
Billing # 0001090
Gen EPA ID
Grid

	Time	Scale	Operator	Inbound		
In	02/10/2009 08:55:46	SCALE1	LSNYDERS		Gross	61940 lb
Out	02/10/2009 08:55:46		LSNYDERS		Tare	33960 lb
					Net	27980 lb
					Tons	13.99

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	Special Misc-Tons-	100	13.99	Tons				IL

Total Fees
Total Ticket

Driver's Signature

403WM-N

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: IL0000802702
2. Page 1 of
3. Emergency Response Phone: 618-482-6478
4. Manifest Tracking Number: 005114597 JJK

5. Generator's Name and Mailing Address
Solutia Inc
500 Monsanto Ave
Sauget, IL 62206 (618) 482-0545
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Lafore Trucking (618) 610-7929 IL ID # 5014
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Milam RDF
601 Madison Rd
East St. Louis, IL 62201 (618) 271-6788 IL ID # 1630450001
Facility's Phone:
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Not Hazardous by DOT Contaminated Soil	001		12 yd³	CT	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile: 8126196

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Brett D. Shank
Signature: [signature]
Month 2 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: X Bob Tubin
Signature: Bob Tub
Month 2 Day 10 Year 09
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 2 Day 10 Year 09

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

PURGE DATA CONTINUED:

Purge Volume (mL) gallons	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
94	1516	16.53	brown	none	7.81	14.83	3.199	44.1		
96	1518	↓	↓	↓	7.81	14.82	3.201	43.6		
98	1520	↓	↓	↓	7.81	14.87	3.200	42.7		
100	1522	↓	↓	↓	7.81	14.87	3.199	43.5		

COMMENTS:

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: WGK Well Installation - Mercury Area **PROJECT NUMBER:** 21562122.00005
DATE: 2/18/09
WEATHER: sunny, 45°
FIELD PERSONNEL: Mike Corbett (URS)
MONITORING WELL ID: MA-MW01

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 24.75 ft
Depth to Water: 15.22 ft
Height of Water Column: 9.53 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: 1.55 gallons
Min. Purge Volume: 4.65 gallons (3 volumes)
Depth to Top of Screen: 20.51 ft

Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm
LNAPL / DNAPL — ft

PURGE DATA

Purge Method: Super Twister Pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1330	17.04	brown	none	7.88	14.77	3.231	1,206.1		
10	1335	18.64			7.86	14.83	3.230	1,056.7		
20	1340	17.52			7.87	14.89	3.223	906.0		
40*	1350	17.36			7.82	15.01	3.220	119.7		
52	1422	16.55			7.82	15.23	3.218	56.6		
70	1431	16.53			7.82	14.97	3.216	56.4		
80*	1436				7.81	15.55	3.206	43.1		
84	1508				7.81	14.88	3.204	44.7		
88	1510				7.81	14.64	3.200	46.8		
92	1514				7.81	14.88	3.201	42.9		

Start Time: 1330 **Purge Stop Time:** 1522 **Elapsed Time:** 112 minutes **Total Volume Purged:** 100.0 gallons
Average Purge Rate (gallons/min): ~1 gal/min **Well Volumes Purged:** 64.52 **Water Quality Meter ID:** U03135X **Calibrated on:** 2/16/09

SAMPLING DATA

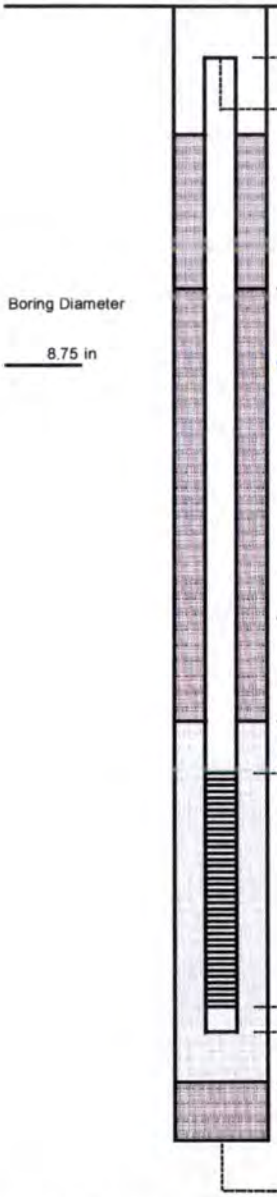
Sampling Method:
Sample Date: — **Sample Time:** — **Analysis:** —

COMMENTS:
*Mobilized to empty development water into drums.
Well surged every 10 gallons with a 5 ft slug.
Final depth to bottom (ft btoc): 25.51 (solid bottom).
0.76 ft of sediment was removed during development.

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram

URS Corporation

Project:	Solutia WGK Corrective Measures/Monitoring Well Installation			Well ID:	MA-MW01
Project Location:	Sauget, IL	Date Started:	2/13/2009		
Well Location:	Mercury Area	Date Completed:	2/13/2009	Boring ID:	MA-MW01
Drilling Contractor:	REDI	Time Seal Set:	1130	Northing:	1051.70
Driller:	Eric Wetzel	Type of Rig:	AMS Powerprobe 9700-VTR	Easting:	1017.60
Consulting Firm:	URS Corporation	Drilling Method:	4.25" ID Hollow Stem Auger	Elevation Datum:	
Geologist:	Mike Corbett	Completion Zone:	SHU		



Boring Diameter

8.75 in

	Depths (ft bgs)	Elevations (ft)
Ground Elevation:	0.00	
Depth of Riser Below Ground:	0.25 ft bgs	
Top of Riser Pipe:		
ID/Type of Surface Casing:	Flush mount	
Type of Surface Seal:	Concrete	
Bottom of Surface Seal:	1.50	
Groundwater (after completion):	15.47	
Type of Riser Pipe:	Schedule 40 PVC	
Riser Diameter:	2.00 in	
Riser Length:	20.31 ft	
Type of Backfill:	Bentonite chips	
Top of Seal:	1.50	
Type of Seal:	Bentonite chips	
Top of Filter Pack	17.56	
Top of Screen	20.56	
Type of Filter Pack:	12/30 Silica sand	
Type of Screen:	Schedule 40 PVC	
Screen Diameter	2.00 in	
Screen Slot Size:	0.10 in	
Screen Length:	5.00 ft	
Bottom of Screen:	25.56	
Bottom of Blank Casing:	25.76	
Backfill/Seal Below Well:	28.00	
Type of Backfill/Seal Below Well:	Native sand	
Bottom of Boring:	28.00	

DIAGRAM IS NOT TO SCALE

LOG OF BORING
MA-MW01

Completion Date: 2/13/09
Casing Elevation:
Ground Elevation:

Coordinates
Northing: N/A
Easting: N/A

Depth in feet	Inches Driven	Inches Recovered	PP, TSF	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	48	48		0.4 0.1			SP	Medium dense, wet, brownish gray, Silty SAND (SM), trace clay	
								Bottom of boring 28' bgs	Installed monitoring well to depth of 25.76' bgs
30									
35									
40									
45									

Completion Depth: ft bgs
Project No.: 21562122.00005
Project Name: Solutia WGK Corrective Measure WP/Monitoring Well Installation
Drilling Contractor: REDI
Drilling method: AMS Powerprobe 9700-VTR
Logged by: Mike Corbett

Water Depth: 13 ft., After ATD hrs.
Water Depth: ____ ft., After ____ hrs.

Water level at time of drilling
Water level after drilling
ATD - At time of drilling

Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

Geoprobe Macro Sampler
Air Knife/Hand Auger Sampler
Air Rotary
3" Clear Acetate Liner
USC based on field visual observations

URS

URS (ENVIRON) LOG W/POCKET PEN 21562122.00005 WGK.GPJ URSSTLEV.GDT 2/25/09

LOG OF BORING
MA-MW01

Completion Date: 2/13/09
Casing Elevation:
Ground Elevation:

Coordinates
Northing: N/A
Easting: N/A

Depth in feet	Inches Driven	Inches Recovered	PP, TSF	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
							FILL	Loose, gray gravel (FILL)	
			2.0				CL	Soft, moist, brown, low plasticity Silty CLAY, with sand and gravel (FILL)	
	48	30		0.0			SP	Loose, moist, dark brown SAND, with cinders and gravel (FILL)	
			1.5				CL	Medium stiff, moist, medium plasticity Silty CLAY, with sand and gravel (FILL)	Sampler pushed, through 2 1/4" diameter casing, with 1" diameter rods
5	48	10	1.5	0.0			CL		
			1.5				CL	Medium stiff, moist, olive gray, medium plasticity, Silty CLAY (CL), trace sand and gravel	
10	48	24		0.0			SM	Grades to medium dense, moist, olive gray, Silty SAND (SM) ▽	
	48	39	1.0	0.0			CL	Medium stiff, moist, olive gray, medium plasticity, Silty CLAY (CL)	
15			1.5	0.0			ML	Medium stiff, wet, olive gray, Clayey SILT (ML)	
	48	44		0.0			CL	Medium stiff, moist, brownish gray, medium plasticity, Silty CLAY (CL)	
20				0.0			SM	Medium dense, wet, brownish gray, Silty SAND (SM), trace clay	
	48	46		0.0					
				0.1				Dense, wet, gray, fine to medium SAND (SP)	
				0.9					

Completion Depth: ft bgs
Project No.: 21562122.00005
Project Name: Solutia WGK Corrective Measure WP/Monitoring Well Installation
Drilling Contractor: REDI
Drilling method: AMS Powerprobe 9700-VTR
Logged by: Mike Corbett

Water Depth: 13 ft., After ATD hrs.
Water Depth: ____ ft., After ____ hrs.

▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling

Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected
Geoprobe Macro Sampler
Air Knife/Hand Auger Sampler
Air Rotary
3" Clear Acetate Liner
USC based on field visual observations

URS

URS (ENVIRON) LOG W/POCKET PEN 21562122.00005 WGK.GPJ URSSTLEV.GDT 2/25/09

ATTACHMENT D

BORING LOG,

MONITORING WELL AS-BUILT DIAGRAM,

DEVELOPMENT SHEET

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #4 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
N-Nitrosodiphenylamine	<	330	ug/kg	23-Jan-09	22:37	PSB
N-Nitrosodiphenylamine	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Pentachlorophenol	<	1600	ug/kg	23-Jan-09	22:37	PSB
Pentachlorophenol	<	1700	ug/kg Dry	23-Jan-09	22:37	PSB
Phenanthrene	<	330	ug/kg	23-Jan-09	22:37	PSB
Phenanthrene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Phenol	<	330	ug/kg	23-Jan-09	22:37	PSB
Phenol	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Pyrene	<	330	ug/kg	23-Jan-09	22:37	PSB
Pyrene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB

SW-846 9045 C	Result	Units	Date/Time		Analyst
pH	9.05	units	20-Jan-09	14:41	WRW

Certified by: Lisa Grant
Lisa Grant, Project Manager

PDC Laboratories participates in the following laboratory accreditation/certification and proficiency programs. Endorsement by the Federal or State Government or their agencies is not implied.

NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17533
Drinking Water Certifications: Indiana (C-IL-04); Kansas (E-10338); Kentucky (90058); Missouri (00870); Wisconsin (998294430)
Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (99829443
Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin (998294430)
UST Certification: Iowa (240)

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
Dibenzo(a,h)anthracene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Dibenzofuran	<	330	ug/kg	23-Jan-09	22:37	PSB
Dibenzofuran	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Diethylphthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
Diethylphthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Dimethylphthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
Dimethylphthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Di-n-Butylphthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
Di-n-Butylphthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Di-n-octylphthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
Di-n-octylphthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Fluoranthene	<	330	ug/kg	23-Jan-09	22:37	PSB
Fluoranthene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Fluorene	<	330	ug/kg	23-Jan-09	22:37	PSB
Fluorene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Hexachlorobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
Hexachlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Hexachlorobutadiene	<	330	ug/kg	23-Jan-09	22:37	PSB
Hexachlorobutadiene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Hexachlorocyclopentadiene	<	330	ug/kg	23-Jan-09	22:37	PSB
Hexachlorocyclopentadiene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Hexachloroethane	<	330	ug/kg	23-Jan-09	22:37	PSB
Hexachloroethane	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg	23-Jan-09	22:37	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Isophorone	<	330	ug/kg	23-Jan-09	22:37	PSB
Isophorone	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Naphthalene	<	330	ug/kg	23-Jan-09	22:37	PSB
Naphthalene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Nitrobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
Nitrobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg	23-Jan-09	22:37	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg Dry	23-Jan-09	22:37	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
4-Nitroaniline	<	1600	ug/kg	23-Jan-09	22:37	PSB
4-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09	22:37	PSB
4-Nitrophenol	<	1600	ug/kg	23-Jan-09	22:37	PSB
4-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09	22:37	PSB
Acenaphthene	<	330	ug/kg	23-Jan-09	22:37	PSB
Acenaphthene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Acenaphthylene	<	330	ug/kg	23-Jan-09	22:37	PSB
Acenaphthylene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Anthracene	<	330	ug/kg	23-Jan-09	22:37	PSB
Anthracene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Benzo(a)anthracene	<	330	ug/kg	23-Jan-09	22:37	PSB
Benzo(a)anthracene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Benzo(a)pyrene	<	330	ug/kg	23-Jan-09	22:37	PSB
Benzo(a)pyrene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Benzo(b)fluoranthene	<	330	ug/kg	23-Jan-09	22:37	PSB
Benzo(b)fluoranthene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Benzo(g,h,i)perylene	<	330	ug/kg	23-Jan-09	22:37	PSB
Benzo(g,h,i)perylene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Benzo(k)fluoranthene	<	330	ug/kg	23-Jan-09	22:37	PSB
Benzo(k)fluoranthene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg	23-Jan-09	22:37	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg	23-Jan-09	22:37	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg	23-Jan-09	22:37	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Butylbenzylphthalate	<	330	ug/kg	23-Jan-09	22:37	PSB
Butylbenzylphthalate	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Chrysene	<	330	ug/kg	23-Jan-09	22:37	PSB
Chrysene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
Dibenzo(a,h)anthracene	<	330	ug/kg	23-Jan-09	22:37	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
2,4-Dinitrophenol	<	1700	ug/kg Dry	23-Jan-09 22:37	PSB
2,4-Dinitrotoluene	<	330	ug/kg	23-Jan-09 22:37	PSB
2,4-Dinitrotoluene	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2,6-Dinitrotoluene	<	330	ug/kg	23-Jan-09 22:37	PSB
2,6-Dinitrotoluene	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2-Chloronaphthalene	<	330	ug/kg	23-Jan-09 22:37	PSB
2-Chloronaphthalene	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2-Chlorophenol	<	330	ug/kg	23-Jan-09 22:37	PSB
2-Chlorophenol	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2-Methylnaphthalene	<	330	ug/kg	23-Jan-09 22:37	PSB
2-Methylnaphthalene	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2-Methylphenol	<	330	ug/kg	23-Jan-09 22:37	PSB
2-Methylphenol	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
2-Nitroaniline	<	1600	ug/kg	23-Jan-09 22:37	PSB
2-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 22:37	PSB
2-Nitrophenol	<	1600	ug/kg	23-Jan-09 22:37	PSB
2-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09 22:37	PSB
3,3'-Dichlorobenzidine	<	660	ug/kg	23-Jan-09 22:37	PSB
3,3'-Dichlorobenzidine	<	670	ug/kg Dry	23-Jan-09 22:37	PSB
3-Nitroaniline	<	1600	ug/kg	23-Jan-09 22:37	PSB
3-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 22:37	PSB
4,6-Dinitro-2-methylphenol	<	1600	ug/kg	23-Jan-09 22:37	PSB
4,6-Dinitro-2-methylphenol	<	1700	ug/kg Dry	23-Jan-09 22:37	PSB
4-Bromophenyl-phenylether	<	330	ug/kg	23-Jan-09 22:37	PSB
4-Bromophenyl-phenylether	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg	23-Jan-09 22:37	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
4-Chloroaniline	<	330	ug/kg	23-Jan-09 22:37	PSB
4-Chloroaniline	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg	23-Jan-09 22:37	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg Dry	23-Jan-09 22:37	PSB
4-Methylphenol	<	330	ug/kg	23-Jan-09 22:37	PSB
4-Methylphenol	<	330	ug/kg Dry	23-Jan-09 22:37	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Toluene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
trans-1,2-Dichloroethene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
trans-1,2-Dichloroethene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
trans-1,3-Dichloropropene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
trans-1,3-Dichloropropene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Trichloroethene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Trichloroethene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Vinyl Chloride	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Vinyl Chloride	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
Xylenes (Total)	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Xylenes (Total)	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG

SW-846 8270C		Result	Units	Date/Time		Analyst
Sample Preparation				19-Jan-09	11:55	AMG2
Sample Preparation				22-Jan-09	11:45	AMG2

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
1,2,4-Trichlorobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
1,2,4-Trichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
1,2-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
1,2-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
1,3-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
1,3-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
1,4-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:37	PSB
1,4-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
2,4,5-Trichlorophenol	<	1600	ug/kg	23-Jan-09	22:37	PSB
2,4,5-Trichlorophenol	<	1700	ug/kg Dry	23-Jan-09	22:37	PSB
2,4,6-Trichlorophenol	<	330	ug/kg	23-Jan-09	22:37	PSB
2,4,6-Trichlorophenol	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
2,4-Dichlorophenol	<	330	ug/kg	23-Jan-09	22:37	PSB
2,4-Dichlorophenol	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
2,4-Dimethylphenol	<	330	ug/kg	23-Jan-09	22:37	PSB
2,4-Dimethylphenol	<	330	ug/kg Dry	23-Jan-09	22:37	PSB
2,4-Dinitrophenol	<	1600	ug/kg	23-Jan-09	22:37	PSB

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Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Carbon Disulfide	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Carbon Disulfide	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Carbon Tetrachloride	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Carbon Tetrachloride	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Chlorobenzene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Chlorobenzene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Chloroethane	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Chloroethane	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
Chloroform	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Chloroform	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Chloromethane	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Chloromethane	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
cis-1,2-Dichloroethene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
cis-1,2-Dichloroethene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
cis-1,3-Dichloropropene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
cis-1,3-Dichloropropene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Dibromochloromethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Dibromochloromethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Ethylbenzene	<	0.0017	mg/kg	20-Jan-09	15:30	AMG
Ethylbenzene	<	0.0017	mg/kg Dry	20-Jan-09	15:30	AMG
m,p-Xylene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
m,p-Xylene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Methylene Chloride	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Methylene Chloride	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Methyl-tert-Butyl Ether	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Methyl-tert-Butyl Ether	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
o-Xylene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
o-Xylene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Styrene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Styrene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Tetrachloroethene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Tetrachloroethene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Toluene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG

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St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #4 | Locator: GRAB

SW-846 8082 R0.0		Result	Units	Date/Time		Analyst
PCBs Total	<	0.81	mg/kg Dry	22-Jan-09	0:06	JMT

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
1,1,1-Trichloroethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,1,1-Trichloroethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,1,2,2-Tetrachloroethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,1,2,2-Tetrachloroethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,1,2-Trichloroethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,1,2-Trichloroethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,1-Dichloroethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,1-Dichloroethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,1-Dichloroethene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,1-Dichloroethene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,2-Dichloroethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,2-Dichloroethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
1,2-Dichloropropane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
1,2-Dichloropropane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
2-Butanone	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
2-Butanone	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
2-Hexanone	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
2-Hexanone	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
4-Methyl-2-pentanone	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
4-Methyl-2-pentanone	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
Acetone	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Acetone	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG
Benzene	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Benzene	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Bromodichloromethane	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Bromodichloromethane	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Bromoform	<	0.0043	mg/kg	20-Jan-09	15:30	AMG
Bromoform	<	0.0044	mg/kg Dry	20-Jan-09	15:30	AMG
Bromomethane	<	0.0086	mg/kg	20-Jan-09	15:30	AMG
Bromomethane	<	0.0087	mg/kg Dry	20-Jan-09	15:30	AMG

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Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
beta-BHC	<	8	ug/kg	22-Jan-09 3:29	JMT
Chlordane (technical)	<	160	ug/kg	22-Jan-09 3:29	JMT
delta-BHC	<	8	ug/kg	22-Jan-09 3:29	JMT
Dieldrin	<	2	ug/kg	22-Jan-09 3:29	JMT
Endosulfan I	<	8	ug/kg	22-Jan-09 3:29	JMT
Endosulfan II	<	16	ug/kg	22-Jan-09 3:29	JMT
Endosulfan Sulfate	<	16	ug/kg	22-Jan-09 3:29	JMT
Endrin	<	16	ug/kg	22-Jan-09 3:29	JMT
Endrin Aldehyde	Q<	16	ug/kg	22-Jan-09 3:29	JMT
gamma-BHC (Lindane)	<	5	ug/kg	22-Jan-09 3:29	JMT
Heptachlor	<	8	ug/kg	22-Jan-09 3:29	JMT
Heptachlor Epoxide	<	8	ug/kg	22-Jan-09 3:29	JMT
Methoxychlor	<	80	ug/kg	22-Jan-09 3:29	JMT
Toxaphene	<	80	ug/kg	22-Jan-09 3:29	JMT

SW-846 8082	Result	Units	Date/Time	Analyst
Sample Preparation			19-Jan-09 12:00	AMG2

SW-846 8082 R0.0		Result	Units	Date/Time	Analyst
Aroclor 1016	<	0.08	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1016	<	0.081	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1221	<	0.16	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1221	<	0.16	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1232	<	0.08	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1232	<	0.081	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1242	<	0.08	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1242	<	0.081	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1248	<	0.08	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1248	<	0.081	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1254	<	0.16	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1254	<	0.16	mg/kg Dry	22-Jan-09 0:06	JMT
Aroclor 1260	<	0.16	mg/kg	22-Jan-09 0:06	JMT
Aroclor 1260	<	0.16	mg/kg Dry	22-Jan-09 0:06	JMT
PCBs Total	<	0.8	mg/kg	22-Jan-09 0:06	JMT

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #4 | Locator: GRAB

SW-846 6020		Result	Units	Date/Time		Analyst
Copper	<	3	mg/kg	29-Jan-09	8:30	JMW
Copper	<	3	mg/kg Dry	29-Jan-09	8:30	JMW
Lead	<	1	mg/kg	28-Jan-09	10:04	JMW
Lead	<	1	mg/kg Dry	28-Jan-09	10:04	JMW
Magnesium		16000	mg/kg	28-Jan-09	10:04	JMW
Magnesium		17000	mg/kg Dry	28-Jan-09	10:04	JMW
Manganese		58	mg/kg	28-Jan-09	10:04	JMW
Manganese		59	mg/kg Dry	28-Jan-09	10:04	JMW
Mercury	<	0.2	mg/kg	28-Jan-09	10:04	JMW
Mercury	<	0.2	mg/kg Dry	28-Jan-09	10:04	JMW
Nickel		23	mg/kg	28-Jan-09	10:04	JMW
Nickel		23	mg/kg Dry	28-Jan-09	10:04	JMW
Potassium		270	mg/kg	28-Jan-09	10:04	JMW
Potassium		270	mg/kg Dry	28-Jan-09	10:04	JMW
Selenium	<	1	mg/kg	28-Jan-09	10:04	JMW
Selenium	<	1	mg/kg Dry	28-Jan-09	10:04	JMW
Silver	<	5	mg/kg	28-Jan-09	10:04	JMW
Silver	<	5.1	mg/kg Dry	28-Jan-09	10:04	JMW
Sodium		150	mg/kg	28-Jan-09	10:04	JMW
Sodium		160	mg/kg Dry	28-Jan-09	10:04	JMW
Thallium	<	1	mg/kg	28-Jan-09	10:04	JMW
Thallium	<	1	mg/kg Dry	28-Jan-09	10:04	JMW
Vanadium	<	5	mg/kg	28-Jan-09	10:04	JMW
Vanadium	<	5.1	mg/kg Dry	28-Jan-09	10:04	JMW
Zinc		15	mg/kg	28-Jan-09	10:04	JMW
Zinc		15	mg/kg Dry	28-Jan-09	10:04	JMW

SW-846 8081A R1.0		Result	Units	Date/Time		Analyst
4,4'-DDD	<	16	ug/kg	22-Jan-09	3:29	JMT
4,4'-DDE	Q<	16	ug/kg	22-Jan-09	3:29	JMT
4,4'-DDT	<	16	ug/kg	22-Jan-09	3:29	JMT
Aldrin	<	8	ug/kg	22-Jan-09	3:29	JMT
alpha-BHC	<	0.35	ug/kg	22-Jan-09	3:29	JMT

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-4 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #4 Locator: GRAB

		Result	Units	Date/Time	Analyst
Sample Preparation				19-Jan-09 12:00	AMG2
SM (18) 2540B		**Result**	**Units**	**Date/Time**	**Analyst**
Moisture		1.4	%	19-Jan-09 11:47	jrb
SM 4500-CN C, G		**Result**	**Units**	**Date/Time**	**Analyst**
Cyanide, Total	<	1.2	mg/kg	27-Jan-09 14:57	lgalr
Cyanide, Total	<	1.3	mg/kg Dry	27-Jan-09 14:57	lgalr
SW-846 3051		**Result**	**Units**	**Date/Time**	**Analyst**
Sample Preparation				23-Jan-09 10:00	BAB
SW-846 6010B R2.0		**Result**	**Units**	**Date/Time**	**Analyst**
Aluminum		390	mg/kg	27-Jan-09 10:00	KJP
Aluminum		400	mg/kg Dry	27-Jan-09 10:00	KJP
Iron		770	mg/kg	27-Jan-09 10:00	KJP
Iron		780	mg/kg Dry	27-Jan-09 10:00	KJP
SW-846 6020		**Result**	**Units**	**Date/Time**	**Analyst**
Antimony	<	3	mg/kg	28-Jan-09 10:04	JMW
Antimony	<	3	mg/kg Dry	28-Jan-09 10:04	JMW
Arsenic	<	1	mg/kg	28-Jan-09 10:04	JMW
Arsenic	<	1	mg/kg Dry	28-Jan-09 10:04	JMW
Barium		8.7	mg/kg	28-Jan-09 10:04	JMW
Barium		8.8	mg/kg Dry	28-Jan-09 10:04	JMW
Beryllium	<	1	mg/kg	28-Jan-09 10:04	JMW
Beryllium	<	1	mg/kg Dry	28-Jan-09 10:04	JMW
Cadmium	<	1	mg/kg	28-Jan-09 10:04	JMW
Cadmium	<	1	mg/kg Dry	28-Jan-09 10:04	JMW
Calcium		310000	mg/kg	28-Jan-09 10:04	JMW
Calcium		320000	mg/kg Dry	28-Jan-09 10:04	JMW
Chromium		6.2	mg/kg	28-Jan-09 10:04	JMW
Chromium		6.2	mg/kg Dry	28-Jan-09 10:04	JMW
Cobalt	<	2	mg/kg	28-Jan-09 10:04	JMW
Cobalt	<	2	mg/kg Dry	28-Jan-09 10:04	JMW

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
N-Nitrosodiphenylamine	<	330	ug/kg	23-Jan-09 22:04	PSB
N-Nitrosodiphenylamine	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Pentachlorophenol	<	1600	ug/kg	23-Jan-09 22:04	PSB
Pentachlorophenol	<	1700	ug/kg Dry	23-Jan-09 22:04	PSB
Phenanthrene	<	330	ug/kg	23-Jan-09 22:04	PSB
Phenanthrene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Phenol	<	330	ug/kg	23-Jan-09 22:04	PSB
Phenol	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Pyrene	<	330	ug/kg	23-Jan-09 22:04	PSB
Pyrene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB

SW-846 9045 C	Result	Units	Date/Time	Analyst
pH	9.04	units	20-Jan-09 14:39	WRW

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St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
Dibenzo(a,h)anthracene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Dibenzofuran	<	330	ug/kg	23-Jan-09 22:04	PSB
Dibenzofuran	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Diethylphthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
Diethylphthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Dimethylphthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
Dimethylphthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Di-n-Butylphthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
Di-n-Butylphthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Di-n-octylphthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
Di-n-octylphthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Fluoranthene	<	330	ug/kg	23-Jan-09 22:04	PSB
Fluoranthene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Fluorene	<	330	ug/kg	23-Jan-09 22:04	PSB
Fluorene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Hexachlorobenzene	<	330	ug/kg	23-Jan-09 22:04	PSB
Hexachlorobenzene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Hexachlorobutadiene	<	330	ug/kg	23-Jan-09 22:04	PSB
Hexachlorobutadiene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Hexachlorocyclopentadiene	<	330	ug/kg	23-Jan-09 22:04	PSB
Hexachlorocyclopentadiene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Hexachloroethane	<	330	ug/kg	23-Jan-09 22:04	PSB
Hexachloroethane	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg	23-Jan-09 22:04	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Isophorone	<	330	ug/kg	23-Jan-09 22:04	PSB
Isophorone	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Naphthalene	<	330	ug/kg	23-Jan-09 22:04	PSB
Naphthalene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Nitrobenzene	<	330	ug/kg	23-Jan-09 22:04	PSB
Nitrobenzene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg	23-Jan-09 22:04	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg Dry	23-Jan-09 22:04	PSB

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St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #3 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
4-Nitroaniline	<	1600	ug/kg	23-Jan-09 22:04	PSB
4-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 22:04	PSB
4-Nitrophenol	<	1600	ug/kg	23-Jan-09 22:04	PSB
4-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09 22:04	PSB
Acenaphthene	<	330	ug/kg	23-Jan-09 22:04	PSB
Acenaphthene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Acenaphthylene	<	330	ug/kg	23-Jan-09 22:04	PSB
Acenaphthylene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Anthracene	<	330	ug/kg	23-Jan-09 22:04	PSB
Anthracene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Benzo(a)anthracene	<	330	ug/kg	23-Jan-09 22:04	PSB
Benzo(a)anthracene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Benzo(a)pyrene	<	330	ug/kg	23-Jan-09 22:04	PSB
Benzo(a)pyrene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Benzo(b)fluoranthene	<	330	ug/kg	23-Jan-09 22:04	PSB
Benzo(b)fluoranthene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Benzo(g,h,i)perylene	<	330	ug/kg	23-Jan-09 22:04	PSB
Benzo(g,h,i)perylene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Benzo(k)fluoranthene	<	330	ug/kg	23-Jan-09 22:04	PSB
Benzo(k)fluoranthene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg	23-Jan-09 22:04	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg	23-Jan-09 22:04	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg	23-Jan-09 22:04	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Butylbenzylphthalate	<	330	ug/kg	23-Jan-09 22:04	PSB
Butylbenzylphthalate	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Chrysene	<	330	ug/kg	23-Jan-09 22:04	PSB
Chrysene	<	330	ug/kg Dry	23-Jan-09 22:04	PSB
Dibenzo(a,h)anthracene	<	330	ug/kg	23-Jan-09 22:04	PSB

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Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
2,4-Dinitrophenol	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
2,4-Dinitrotoluene	<	330	ug/kg	23-Jan-09	22:04	PSB
2,4-Dinitrotoluene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2,6-Dinitrotoluene	<	330	ug/kg	23-Jan-09	22:04	PSB
2,6-Dinitrotoluene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2-Chloronaphthalene	<	330	ug/kg	23-Jan-09	22:04	PSB
2-Chloronaphthalene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2-Chlorophenol	<	330	ug/kg	23-Jan-09	22:04	PSB
2-Chlorophenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2-Methylnaphthalene	<	330	ug/kg	23-Jan-09	22:04	PSB
2-Methylnaphthalene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2-Methylphenol	<	330	ug/kg	23-Jan-09	22:04	PSB
2-Methylphenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2-Nitroaniline	<	1600	ug/kg	23-Jan-09	22:04	PSB
2-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
2-Nitrophenol	<	1600	ug/kg	23-Jan-09	22:04	PSB
2-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
3,3'-Dichlorobenzidine	<	660	ug/kg	23-Jan-09	22:04	PSB
3,3'-Dichlorobenzidine	<	670	ug/kg Dry	23-Jan-09	22:04	PSB
3-Nitroaniline	<	1600	ug/kg	23-Jan-09	22:04	PSB
3-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
4,6-Dinitro-2-methylphenol	<	1600	ug/kg	23-Jan-09	22:04	PSB
4,6-Dinitro-2-methylphenol	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
4-Bromophenyl-phenylether	<	330	ug/kg	23-Jan-09	22:04	PSB
4-Bromophenyl-phenylether	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg	23-Jan-09	22:04	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
4-Chloroaniline	<	330	ug/kg	23-Jan-09	22:04	PSB
4-Chloroaniline	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg	23-Jan-09	22:04	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
4-Methylphenol	<	330	ug/kg	23-Jan-09	22:04	PSB
4-Methylphenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB

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2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Toluene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
trans-1,2-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
trans-1,2-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
trans-1,3-Dichloropropene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
trans-1,3-Dichloropropene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Trichloroethene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Trichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Vinyl Chloride	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Vinyl Chloride	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
Xylenes (Total)	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Xylenes (Total)	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG

SW-846 8270C		Result	Units	Date/Time		Analyst
Sample Preparation				22-Jan-09	11:45	AMG2
Sample Preparation				19-Jan-09	11:55	AMG2

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
1,2,4-Trichlorobenzene	<	330	ug/kg	23-Jan-09	22:04	PSB
1,2,4-Trichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
1,2-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:04	PSB
1,2-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
1,3-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:04	PSB
1,3-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
1,4-Dichlorobenzene	<	330	ug/kg	23-Jan-09	22:04	PSB
1,4-Dichlorobenzene	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2,4,5-Trichlorophenol	<	1600	ug/kg	23-Jan-09	22:04	PSB
2,4,5-Trichlorophenol	<	1700	ug/kg Dry	23-Jan-09	22:04	PSB
2,4,6-Trichlorophenol	<	330	ug/kg	23-Jan-09	22:04	PSB
2,4,6-Trichlorophenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2,4-Dichlorophenol	<	330	ug/kg	23-Jan-09	22:04	PSB
2,4-Dichlorophenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2,4-Dimethylphenol	<	330	ug/kg	23-Jan-09	22:04	PSB
2,4-Dimethylphenol	<	330	ug/kg Dry	23-Jan-09	22:04	PSB
2,4-Dinitrophenol	<	1600	ug/kg	23-Jan-09	22:04	PSB

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Carbon Disulfide	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Carbon Disulfide	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Carbon Tetrachloride	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Carbon Tetrachloride	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Chlorobenzene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Chlorobenzene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Chloroethane	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Chloroethane	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
Chloroform	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Chloroform	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Chloromethane	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Chloromethane	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
cis-1,2-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
cis-1,2-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
cis-1,3-Dichloropropene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
cis-1,3-Dichloropropene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Dibromochloromethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Dibromochloromethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Ethylbenzene	<	0.0017	mg/kg	20-Jan-09	14:59	AMG
Ethylbenzene	<	0.0017	mg/kg Dry	20-Jan-09	14:59	AMG
m,p-Xylene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
m,p-Xylene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Methylene Chloride	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Methylene Chloride	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Methyl-tert-Butyl Ether	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Methyl-tert-Butyl Ether	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
o-Xylene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
o-Xylene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Styrene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Styrene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Tetrachloroethene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Tetrachloroethene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Toluene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8082 R0.0		Result	Units	Date/Time		Analyst
PCBs Total	<	0.81	mg/kg Dry	21-Jan-09	23:31	JMT

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
1,1,1-Trichloroethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,1,1-Trichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,1,2,2-Tetrachloroethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,1,2,2-Tetrachloroethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,1,2-Trichloroethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,1,2-Trichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,1-Dichloroethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,1-Dichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,1-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,1-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,2-Dichloroethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,2-Dichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
1,2-Dichloropropane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
1,2-Dichloropropane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
2-Butanone	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
2-Butanone	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
2-Hexanone	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
2-Hexanone	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
4-Methyl-2-pentanone	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
4-Methyl-2-pentanone	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
Acetone	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Acetone	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG
Benzene	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Benzene	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Bromodichloromethane	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Bromodichloromethane	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Bromoform	<	0.0044	mg/kg	20-Jan-09	14:59	AMG
Bromoform	<	0.0045	mg/kg Dry	20-Jan-09	14:59	AMG
Bromomethane	<	0.0087	mg/kg	20-Jan-09	14:59	AMG
Bromomethane	<	0.0088	mg/kg Dry	20-Jan-09	14:59	AMG

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
beta-BHC	<	8	ug/kg	22-Jan-09 3:06	JMT
Chlordane (technical)	<	160	ug/kg	22-Jan-09 3:06	JMT
delta-BHC	<	8	ug/kg	22-Jan-09 3:06	JMT
Dieldrin	<	2	ug/kg	22-Jan-09 3:06	JMT
Endosulfan I	<	8	ug/kg	22-Jan-09 3:06	JMT
Endosulfan II	<	16	ug/kg	22-Jan-09 3:06	JMT
Endosulfan Sulfate	<	16	ug/kg	22-Jan-09 3:06	JMT
Endrin	<	16	ug/kg	22-Jan-09 3:06	JMT
Endrin Aldehyde	Q<	16	ug/kg	22-Jan-09 3:06	JMT
gamma-BHC (Lindane)	<	5	ug/kg	22-Jan-09 3:06	JMT
Heptachlor	<	8	ug/kg	22-Jan-09 3:06	JMT
Heptachlor Epoxide	<	8	ug/kg	22-Jan-09 3:06	JMT
Methoxychlor	<	80	ug/kg	22-Jan-09 3:06	JMT
Toxaphene	<	80	ug/kg	22-Jan-09 3:06	JMT

SW-846 8082	Result	Units	Date/Time	Analyst
Sample Preparation			19-Jan-09 12:00	AMG2

SW-846 8082 R0.0		Result	Units	Date/Time	Analyst
Aroclor 1016	<	0.08	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1016	<	0.081	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1221	<	0.16	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1221	<	0.16	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1232	<	0.08	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1232	<	0.081	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1242	<	0.08	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1242	<	0.081	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1248	<	0.08	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1248	<	0.081	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1254	<	0.16	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1254	<	0.16	mg/kg Dry	21-Jan-09 23:31	JMT
Aroclor 1260	<	0.16	mg/kg	21-Jan-09 23:31	JMT
Aroclor 1260	<	0.16	mg/kg Dry	21-Jan-09 23:31	JMT
PCBs Total	<	0.8	mg/kg	21-Jan-09 23:31	JMT

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

SW-846 6020		Result	Units	Date/Time	Analyst
Copper	<	3	mg/kg	29-Jan-09 8:28	JMW
Copper	<	3	mg/kg Dry	29-Jan-09 8:28	JMW
Lead	<	1	mg/kg	28-Jan-09 9:58	JMW
Lead	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Magnesium		20000	mg/kg	28-Jan-09 9:58	JMW
Magnesium		20000	mg/kg Dry	28-Jan-09 9:58	JMW
Manganese		55	mg/kg	28-Jan-09 9:58	JMW
Manganese		56	mg/kg Dry	28-Jan-09 9:58	JMW
Mercury	<	0.2	mg/kg	28-Jan-09 9:58	JMW
Mercury	<	0.2	mg/kg Dry	28-Jan-09 9:58	JMW
Nickel		20	mg/kg	28-Jan-09 9:58	JMW
Nickel		20	mg/kg Dry	28-Jan-09 9:58	JMW
Potassium		220	mg/kg	28-Jan-09 9:58	JMW
Potassium		220	mg/kg Dry	28-Jan-09 9:58	JMW
Selenium	<	1	mg/kg	28-Jan-09 9:58	JMW
Selenium	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Silver	<	5	mg/kg	28-Jan-09 9:58	JMW
Silver	<	5.1	mg/kg Dry	28-Jan-09 9:58	JMW
Sodium		170	mg/kg	28-Jan-09 9:58	JMW
Sodium		180	mg/kg Dry	28-Jan-09 9:58	JMW
Thallium	<	1	mg/kg	28-Jan-09 9:58	JMW
Thallium	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Vanadium	<	5	mg/kg	28-Jan-09 9:58	JMW
Vanadium	<	5.1	mg/kg Dry	28-Jan-09 9:58	JMW
Zinc		16	mg/kg	28-Jan-09 9:58	JMW
Zinc		16	mg/kg Dry	28-Jan-09 9:58	JMW

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
4,4'-DDD	<	16	ug/kg	22-Jan-09 3:06	JMT
4,4'-DDE	Q<	16	ug/kg	22-Jan-09 3:06	JMT
4,4'-DDT	<	16	ug/kg	22-Jan-09 3:06	JMT
Aldrin	<	8	ug/kg	22-Jan-09 3:06	JMT
alpha-BHC	<	0.35	ug/kg	22-Jan-09 3:06	JMT

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-3 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #3 Locator: GRAB

		Result	Units	Date/Time	Analyst
Sample Preparation				19-Jan-09 12:00	AMG2
SM (18) 2540B		**Result**	**Units**	**Date/Time**	**Analyst**
Moisture		1.4	%	19-Jan-09 11:45	jrb
SM 4500-CN C, G		**Result**	**Units**	**Date/Time**	**Analyst**
Cyanide, Total	<	1.2	mg/kg	27-Jan-09 14:56	lgalr
Cyanide, Total	<	1.3	mg/kg Dry	27-Jan-09 14:56	lgalr
SW-846 3051		**Result**	**Units**	**Date/Time**	**Analyst**
Sample Preparation				23-Jan-09 10:00	BAB
SW-846 6010B R2.0		**Result**	**Units**	**Date/Time**	**Analyst**
Aluminum		310	mg/kg	27-Jan-09 10:00	KJP
Aluminum		310	mg/kg Dry	27-Jan-09 10:00	KJP
Iron		970	mg/kg	27-Jan-09 10:00	KJP
Iron		980	mg/kg Dry	27-Jan-09 10:00	KJP
SW-846 6020		**Result**	**Units**	**Date/Time**	**Analyst**
Antimony	<	3	mg/kg	28-Jan-09 9:58	JMW
Antimony	<	3	mg/kg Dry	28-Jan-09 9:58	JMW
Arsenic	<	1	mg/kg	28-Jan-09 9:58	JMW
Arsenic	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Barium		8.1	mg/kg	28-Jan-09 9:58	JMW
Barium		8.2	mg/kg Dry	28-Jan-09 9:58	JMW
Beryllium	<	1	mg/kg	28-Jan-09 9:58	JMW
Beryllium	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Cadmium	<	1	mg/kg	28-Jan-09 9:58	JMW
Cadmium	<	1	mg/kg Dry	28-Jan-09 9:58	JMW
Calcium		280000	mg/kg	28-Jan-09 9:58	JMW
Calcium		280000	mg/kg Dry	28-Jan-09 9:58	JMW
Chromium		5	mg/kg	28-Jan-09 9:58	JMW
Chromium		5.1	mg/kg Dry	28-Jan-09 9:58	JMW
Cobalt	<	2	mg/kg	28-Jan-09 9:58	JMW
Cobalt	<	2	mg/kg Dry	28-Jan-09 9:58	JMW

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #2 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
N-Nitrosodiphenylamine	<	330	ug/kg	23-Jan-09 21:31	PSB
N-Nitrosodiphenylamine	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
Pentachlorophenol	<	1600	ug/kg	23-Jan-09 21:31	PSB
Pentachlorophenol	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
Phenanthrene	<	330	ug/kg	23-Jan-09 21:31	PSB
Phenanthrene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
Phenol	<	330	ug/kg	23-Jan-09 21:31	PSB
Phenol	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
Pyrene	<	330	ug/kg	23-Jan-09 21:31	PSB
Pyrene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB

SW-846 9045 C	Result	Units	Date/Time	Analyst
pH	9.02	units	20-Jan-09 14:37	WRW

PDC Laboratories, Inc.
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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
Dibenzo(a,h)anthracene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Dibenzofuran	<	330	ug/kg	23-Jan-09	21:31	PSB
Dibenzofuran	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Diethylphthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
Diethylphthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Dimethylphthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
Dimethylphthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Di-n-Butylphthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
Di-n-Butylphthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Di-n-octylphthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
Di-n-octylphthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Fluoranthene	<	330	ug/kg	23-Jan-09	21:31	PSB
Fluoranthene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Fluorene	<	330	ug/kg	23-Jan-09	21:31	PSB
Fluorene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Hexachlorobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
Hexachlorobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Hexachlorobutadiene	<	330	ug/kg	23-Jan-09	21:31	PSB
Hexachlorobutadiene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Hexachlorocyclopentadiene	<	330	ug/kg	23-Jan-09	21:31	PSB
Hexachlorocyclopentadiene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Hexachloroethane	<	330	ug/kg	23-Jan-09	21:31	PSB
Hexachloroethane	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg	23-Jan-09	21:31	PSB
Indeno(1,2,3-cd)pyrene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Isophorone	<	330	ug/kg	23-Jan-09	21:31	PSB
Isophorone	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Naphthalene	<	330	ug/kg	23-Jan-09	21:31	PSB
Naphthalene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Nitrobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
Nitrobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg	23-Jan-09	21:31	PSB
N-Nitroso-di-n-propylamine	<	340	ug/kg Dry	23-Jan-09	21:31	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #2 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
4-Nitroaniline	<	1600	ug/kg	23-Jan-09	21:31	PSB
4-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09	21:31	PSB
4-Nitrophenol	<	1600	ug/kg	23-Jan-09	21:31	PSB
4-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09	21:31	PSB
Acenaphthene	<	330	ug/kg	23-Jan-09	21:31	PSB
Acenaphthene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Acenaphthylene	<	330	ug/kg	23-Jan-09	21:31	PSB
Acenaphthylene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Anthracene	<	330	ug/kg	23-Jan-09	21:31	PSB
Anthracene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Benzo(a)anthracene	<	330	ug/kg	23-Jan-09	21:31	PSB
Benzo(a)anthracene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Benzo(a)pyrene	<	330	ug/kg	23-Jan-09	21:31	PSB
Benzo(a)pyrene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Benzo(b)fluoranthene	<	330	ug/kg	23-Jan-09	21:31	PSB
Benzo(b)fluoranthene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Benzo(g,h,i)perylene	<	330	ug/kg	23-Jan-09	21:31	PSB
Benzo(g,h,i)perylene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Benzo(k)fluoranthene	<	330	ug/kg	23-Jan-09	21:31	PSB
Benzo(k)fluoranthene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg	23-Jan-09	21:31	PSB
bis(2-Chloroethoxy)methane	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg	23-Jan-09	21:31	PSB
bis(2-Chloroethyl) Ether	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg	23-Jan-09	21:31	PSB
Bis(2-chloroisopropyl)ether	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
bis(2-Ethylhexyl)phthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Butylbenzylphthalate	<	330	ug/kg	23-Jan-09	21:31	PSB
Butylbenzylphthalate	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Chrysene	<	330	ug/kg	23-Jan-09	21:31	PSB
Chrysene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
Dibenzo(a,h)anthracene	<	330	ug/kg	23-Jan-09	21:31	PSB

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
2,4-Dinitrophenol	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
2,4-Dinitrotoluene	<	330	ug/kg	23-Jan-09 21:31	PSB
2,4-Dinitrotoluene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2,6-Dinitrotoluene	<	330	ug/kg	23-Jan-09 21:31	PSB
2,6-Dinitrotoluene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2-Chloronaphthalene	<	330	ug/kg	23-Jan-09 21:31	PSB
2-Chloronaphthalene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2-Chlorophenol	<	330	ug/kg	23-Jan-09 21:31	PSB
2-Chlorophenol	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2-Methylnaphthalene	<	330	ug/kg	23-Jan-09 21:31	PSB
2-Methylnaphthalene	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2-Methylphenol	<	330	ug/kg	23-Jan-09 21:31	PSB
2-Methylphenol	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
2-Nitroaniline	<	1600	ug/kg	23-Jan-09 21:31	PSB
2-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
2-Nitrophenol	<	1600	ug/kg	23-Jan-09 21:31	PSB
2-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
3,3'-Dichlorobenzidine	<	660	ug/kg	23-Jan-09 21:31	PSB
3,3'-Dichlorobenzidine	<	670	ug/kg Dry	23-Jan-09 21:31	PSB
3-Nitroaniline	<	1600	ug/kg	23-Jan-09 21:31	PSB
3-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
4,6-Dinitro-2-methylphenol	<	1600	ug/kg	23-Jan-09 21:31	PSB
4,6-Dinitro-2-methylphenol	<	1700	ug/kg Dry	23-Jan-09 21:31	PSB
4-Bromophenyl-phenylether	<	330	ug/kg	23-Jan-09 21:31	PSB
4-Bromophenyl-phenylether	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg	23-Jan-09 21:31	PSB
4-Chloro-3-Methylphenol	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
4-Chloroaniline	<	330	ug/kg	23-Jan-09 21:31	PSB
4-Chloroaniline	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg	23-Jan-09 21:31	PSB
4-Chlorophenyl-phenyl Ether	<	340	ug/kg Dry	23-Jan-09 21:31	PSB
4-Methylphenol	<	330	ug/kg	23-Jan-09 21:31	PSB
4-Methylphenol	<	340	ug/kg Dry	23-Jan-09 21:31	PSB

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Toluene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
trans-1,2-Dichloroethene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
trans-1,2-Dichloroethene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
trans-1,3-Dichloropropene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
trans-1,3-Dichloropropene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Trichloroethene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Trichloroethene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Vinyl Chloride	<	0.0091	mg/kg	20-Jan-09	14:27	AMG
Vinyl Chloride	<	0.0092	mg/kg Dry	20-Jan-09	14:27	AMG
Xylenes (Total)	<	0.0091	mg/kg	20-Jan-09	14:27	AMG
Xylenes (Total)	<	0.0092	mg/kg Dry	20-Jan-09	14:27	AMG

SW-846 8270C	Result	Units	Date/Time		Analyst
Sample Preparation			22-Jan-09	11:45	AMG2
Sample Preparation			19-Jan-09	11:55	AMG2

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
1,2,4-Trichlorobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
1,2,4-Trichlorobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
1,2-Dichlorobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
1,2-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
1,3-Dichlorobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
1,3-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
1,4-Dichlorobenzene	<	330	ug/kg	23-Jan-09	21:31	PSB
1,4-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
2,4,5-Trichlorophenol	<	1600	ug/kg	23-Jan-09	21:31	PSB
2,4,5-Trichlorophenol	<	1700	ug/kg Dry	23-Jan-09	21:31	PSB
2,4,6-Trichlorophenol	<	330	ug/kg	23-Jan-09	21:31	PSB
2,4,6-Trichlorophenol	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
2,4-Dichlorophenol	<	330	ug/kg	23-Jan-09	21:31	PSB
2,4-Dichlorophenol	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
2,4-Dimethylphenol	<	330	ug/kg	23-Jan-09	21:31	PSB
2,4-Dimethylphenol	<	340	ug/kg Dry	23-Jan-09	21:31	PSB
2,4-Dinitrophenol	<	1600	ug/kg	23-Jan-09	21:31	PSB

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Carbon Disulfide	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Carbon Disulfide	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Carbon Tetrachloride	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Carbon Tetrachloride	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Chlorobenzene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Chlorobenzene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Chloroethane	<	0.0091	mg/kg	20-Jan-09	14:27	AMG
Chloroethane	<	0.0092	mg/kg Dry	20-Jan-09	14:27	AMG
Chloroform	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Chloroform	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Chloromethane	<	0.0091	mg/kg	20-Jan-09	14:27	AMG
Chloromethane	<	0.0092	mg/kg Dry	20-Jan-09	14:27	AMG
cis-1,2-Dichloroethene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
cis-1,2-Dichloroethene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
cis-1,3-Dichloropropene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
cis-1,3-Dichloropropene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Dibromochloromethane	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Dibromochloromethane	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Ethylbenzene	<	0.0018	mg/kg	20-Jan-09	14:27	AMG
Ethylbenzene	<	0.0018	mg/kg Dry	20-Jan-09	14:27	AMG
m,p-Xylene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
m,p-Xylene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Methylene Chloride	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Methylene Chloride	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Methyl-tert-Butyl Ether	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Methyl-tert-Butyl Ether	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
o-Xylene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
o-Xylene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Styrene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Styrene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Tetrachloroethene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG
Tetrachloroethene	<	0.0047	mg/kg Dry	20-Jan-09	14:27	AMG
Toluene	<	0.0046	mg/kg	20-Jan-09	14:27	AMG

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #2 | Locator: GRAB

SW-846 8082 R0.0		Result	Units	Date/Time	Analyst
PCBs Total	<	0.81	mg/kg Dry	21-Jan-09 22:57	JMT

SW-846 8260B R2.0		Result	Units	Date/Time	Analyst
1,1,1-Trichloroethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,1,1-Trichloroethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,1,2,2-Tetrachloroethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,1,2,2-Tetrachloroethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,1,2-Trichloroethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,1,2-Trichloroethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,1-Dichloroethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,1-Dichloroethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,1-Dichloroethene	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,1-Dichloroethene	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,2-Dichloroethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,2-Dichloroethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
1,2-Dichloropropane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
1,2-Dichloropropane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
2-Butanone	<	0.0091	mg/kg	20-Jan-09 14:27	AMG
2-Butanone	<	0.0092	mg/kg Dry	20-Jan-09 14:27	AMG
2-Hexanone	<	0.0091	mg/kg	20-Jan-09 14:27	AMG
2-Hexanone	<	0.0092	mg/kg Dry	20-Jan-09 14:27	AMG
4-Methyl-2-pentanone	<	0.0091	mg/kg	20-Jan-09 14:27	AMG
4-Methyl-2-pentanone	<	0.0092	mg/kg Dry	20-Jan-09 14:27	AMG
Acetone	<	0.0091	mg/kg	20-Jan-09 14:27	AMG
Acetone	<	0.0092	mg/kg Dry	20-Jan-09 14:27	AMG
Benzene	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
Benzene	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
Bromodichloromethane	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
Bromodichloromethane	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
Bromoform	<	0.0046	mg/kg	20-Jan-09 14:27	AMG
Bromoform	<	0.0047	mg/kg Dry	20-Jan-09 14:27	AMG
Bromomethane	<	0.0091	mg/kg	20-Jan-09 14:27	AMG
Bromomethane	<	0.0092	mg/kg Dry	20-Jan-09 14:27	AMG

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
beta-BHC	<	8	ug/kg	22-Jan-09 2:42	JMT
Chlordane (technical)	<	160	ug/kg	22-Jan-09 2:42	JMT
delta-BHC	<	8	ug/kg	22-Jan-09 2:42	JMT
Dieldrin	<	2	ug/kg	22-Jan-09 2:42	JMT
Endosulfan I	<	8	ug/kg	22-Jan-09 2:42	JMT
Endosulfan II	<	16	ug/kg	22-Jan-09 2:42	JMT
Endosulfan Sulfate	<	16	ug/kg	22-Jan-09 2:42	JMT
Endrin	<	16	ug/kg	22-Jan-09 2:42	JMT
Endrin Aldehyde	Q<	16	ug/kg	22-Jan-09 2:42	JMT
gamma-BHC (Lindane)	<	5	ug/kg	22-Jan-09 2:42	JMT
Heptachlor	<	8	ug/kg	22-Jan-09 2:42	JMT
Heptachlor Epoxide	<	8	ug/kg	22-Jan-09 2:42	JMT
Methoxychlor	<	80	ug/kg	22-Jan-09 2:42	JMT
Toxaphene	<	80	ug/kg	22-Jan-09 2:42	JMT

SW-846 8082	Result	Units	Date/Time	Analyst
Sample Preparation			19-Jan-09 12:00	AMG2

SW-846 8082 R0.0		Result	Units	Date/Time	Analyst
Aroclor 1016	<	0.08	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1016	<	0.081	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1221	<	0.16	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1221	<	0.16	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1232	<	0.08	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1232	<	0.081	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1242	<	0.08	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1242	<	0.081	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1248	<	0.08	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1248	<	0.081	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1254	<	0.16	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1254	<	0.16	mg/kg Dry	21-Jan-09 22:57	JMT
Aroclor 1260	<	0.16	mg/kg	21-Jan-09 22:57	JMT
Aroclor 1260	<	0.16	mg/kg Dry	21-Jan-09 22:57	JMT
PCBs Total	<	0.8	mg/kg	21-Jan-09 22:57	JMT

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

SW-846 6020		Result	Units	Date/Time	Analyst
Copper	<	3	mg/kg	29-Jan-09 8:25	JMW
Copper	<	3	mg/kg Dry	29-Jan-09 8:25	JMW
Lead	<	1	mg/kg	28-Jan-09 9:53	JMW
Lead	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Magnesium		17000	mg/kg	28-Jan-09 9:53	JMW
Magnesium		18000	mg/kg Dry	28-Jan-09 9:53	JMW
Manganese		56	mg/kg	28-Jan-09 9:53	JMW
Manganese		57	mg/kg Dry	28-Jan-09 9:53	JMW
Mercury	<	0.2	mg/kg	28-Jan-09 9:53	JMW
Mercury	<	0.2	mg/kg Dry	28-Jan-09 9:53	JMW
Nickel		20	mg/kg	28-Jan-09 9:53	JMW
Nickel		20	mg/kg Dry	28-Jan-09 9:53	JMW
Potassium		210	mg/kg	28-Jan-09 9:53	JMW
Potassium		220	mg/kg Dry	28-Jan-09 9:53	JMW
Selenium	<	1	mg/kg	28-Jan-09 9:53	JMW
Selenium	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Silver	<	5	mg/kg	28-Jan-09 9:53	JMW
Silver	<	5.1	mg/kg Dry	28-Jan-09 9:53	JMW
Sodium		160	mg/kg	28-Jan-09 9:53	JMW
Sodium		160	mg/kg Dry	28-Jan-09 9:53	JMW
Thallium	<	1	mg/kg	28-Jan-09 9:53	JMW
Thallium	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Vanadium	<	5	mg/kg	28-Jan-09 9:53	JMW
Vanadium	<	5.1	mg/kg Dry	28-Jan-09 9:53	JMW
Zinc		14	mg/kg	28-Jan-09 9:53	JMW
Zinc		14	mg/kg Dry	28-Jan-09 9:53	JMW

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
4,4'-DDD	<	16	ug/kg	22-Jan-09 2:42	JMT
4,4'-DDE	Q<	16	ug/kg	22-Jan-09 2:42	JMT
4,4'-DDT	<	16	ug/kg	22-Jan-09 2:42	JMT
Aldrin	<	8	ug/kg	22-Jan-09 2:42	JMT
alpha-BHC	<	0.35	ug/kg	22-Jan-09 2:42	JMT

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-2 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #2 Locator: GRAB

		Result	Units	Date/Time	Analyst
Sample Preparation				19-Jan-09 12:00	AMG2
SM (18) 2540B		**Result**	**Units**	**Date/Time**	**Analyst**
Moisture		1.6	%	19-Jan-09 11:44	jrb
SM 4500-CN C, G		**Result**	**Units**	**Date/Time**	**Analyst**
Cyanide, Total	<	1.2	mg/kg	27-Jan-09 14:55	lgalr
Cyanide, Total	<	1.3	mg/kg Dry	27-Jan-09 14:55	lgalr
SW-846 3051		**Result**	**Units**	**Date/Time**	**Analyst**
Sample Preparation				23-Jan-09 10:00	BAB
SW-846 6010B R2.0		**Result**	**Units**	**Date/Time**	**Analyst**
Aluminum		310	mg/kg	27-Jan-09 10:00	KJP
Aluminum		320	mg/kg Dry	27-Jan-09 10:00	KJP
Iron		800	mg/kg	27-Jan-09 10:00	KJP
Iron		810	mg/kg Dry	27-Jan-09 10:00	KJP
SW-846 6020		**Result**	**Units**	**Date/Time**	**Analyst**
Antimony	<	3	mg/kg	28-Jan-09 9:53	JMW
Antimony	<	3	mg/kg Dry	28-Jan-09 9:53	JMW
Arsenic	<	1	mg/kg	28-Jan-09 9:53	JMW
Arsenic	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Barium		8.1	mg/kg	28-Jan-09 9:53	JMW
Barium		8.3	mg/kg Dry	28-Jan-09 9:53	JMW
Beryllium	<	1	mg/kg	28-Jan-09 9:53	JMW
Beryllium	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Cadmium	<	1	mg/kg	28-Jan-09 9:53	JMW
Cadmium	<	1	mg/kg Dry	28-Jan-09 9:53	JMW
Calcium		290000	mg/kg	28-Jan-09 9:53	JMW
Calcium		300000	mg/kg Dry	28-Jan-09 9:53	JMW
Chromium		4.7	mg/kg	28-Jan-09 9:53	JMW
Chromium		4.8	mg/kg Dry	28-Jan-09 9:53	JMW
Cobalt	<	2	mg/kg	28-Jan-09 9:53	JMW
Cobalt	<	2	mg/kg Dry	28-Jan-09 9:53	JMW

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ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #1 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
N-Nitrosodiphenylamine	<	330	ug/kg	23-Jan-09 20:58	PSB
N-Nitrosodiphenylamine	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Pentachlorophenol	<	1600	ug/kg	23-Jan-09 20:58	PSB
Pentachlorophenol	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
Phenanthrene	<	330	ug/kg	23-Jan-09 20:58	PSB
Phenanthrene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Phenol	<	330	ug/kg	23-Jan-09 20:58	PSB
Phenol	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Pyrene	<	330	ug/kg	23-Jan-09 20:58	PSB
Pyrene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB

SW-846 9045 C	Result	Units	Date/Time	Analyst
pH	8.83	units	20-Jan-09 14:35	WRW

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #1 | Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
Dibenzo(a,h)anthracene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Dibenzofuran	<	330	ug/kg	23-Jan-09 20:58	PSB
Dibenzofuran	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Diethylphthalate	<	330	ug/kg	23-Jan-09 20:58	PSB
Diethylphthalate	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Dimethylphthalate	<	330	ug/kg	23-Jan-09 20:58	PSB
Dimethylphthalate	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Di-n-Butylphthalate	<	330	ug/kg	23-Jan-09 20:58	PSB
Di-n-Butylphthalate	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Di-n-octylphthalate	<	330	ug/kg	23-Jan-09 20:58	PSB
Di-n-octylphthalate	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Fluoranthene	<	330	ug/kg	23-Jan-09 20:58	PSB
Fluoranthene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Fluorene	<	330	ug/kg	23-Jan-09 20:58	PSB
Fluorene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Hexachlorobenzene	<	330	ug/kg	23-Jan-09 20:58	PSB
Hexachlorobenzene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Hexachlorobutadiene	<	330	ug/kg	23-Jan-09 20:58	PSB
Hexachlorobutadiene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Hexachlorocyclopentadiene	<	330	ug/kg	23-Jan-09 20:58	PSB
Hexachlorocyclopentadiene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Hexachloroethane	<	330	ug/kg	23-Jan-09 20:58	PSB
Hexachloroethane	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Indeno(1,2,3-cd)pyrene	<	330	ug/kg	23-Jan-09 20:58	PSB
Indeno(1,2,3-cd)pyrene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Isophorone	<	330	ug/kg	23-Jan-09 20:58	PSB
Isophorone	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Naphthalene	<	330	ug/kg	23-Jan-09 20:58	PSB
Naphthalene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
Nitrobenzene	<	330	ug/kg	23-Jan-09 20:58	PSB
Nitrobenzene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
N-Nitroso-di-n-propylamine	<	330	ug/kg	23-Jan-09 20:58	PSB
N-Nitroso-di-n-propylamine	<	340	ug/kg Dry	23-Jan-09 20:58	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
4-Nitroaniline	<	1600	ug/kg	23-Jan-09	20:58	PSB
4-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09	20:58	PSB
4-Nitrophenol	<	1600	ug/kg	23-Jan-09	20:58	PSB
4-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09	20:58	PSB
Acenaphthene	<	330	ug/kg	23-Jan-09	20:58	PSB
Acenaphthene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Acenaphthylene	<	330	ug/kg	23-Jan-09	20:58	PSB
Acenaphthylene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Anthracene	<	330	ug/kg	23-Jan-09	20:58	PSB
Anthracene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Benzo(a)anthracene	<	330	ug/kg	23-Jan-09	20:58	PSB
Benzo(a)anthracene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Benzo(a)pyrene	<	330	ug/kg	23-Jan-09	20:58	PSB
Benzo(a)pyrene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Benzo(b)fluoranthene	<	330	ug/kg	23-Jan-09	20:58	PSB
Benzo(b)fluoranthene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Benzo(g,h,i)perylene	<	330	ug/kg	23-Jan-09	20:58	PSB
Benzo(g,h,i)perylene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Benzo(k)fluoranthene	<	330	ug/kg	23-Jan-09	20:58	PSB
Benzo(k)fluoranthene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
bis(2-Chloroethoxy)methane	<	330	ug/kg	23-Jan-09	20:58	PSB
bis(2-Chloroethoxy)methane	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
bis(2-Chloroethyl) Ether	<	330	ug/kg	23-Jan-09	20:58	PSB
bis(2-Chloroethyl) Ether	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Bis(2-chloroisopropyl)ether	<	330	ug/kg	23-Jan-09	20:58	PSB
Bis(2-chloroisopropyl)ether	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
bis(2-Ethylhexyl)phthalate	<	330	ug/kg	23-Jan-09	20:58	PSB
bis(2-Ethylhexyl)phthalate	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Butylbenzylphthalate	<	330	ug/kg	23-Jan-09	20:58	PSB
Butylbenzylphthalate	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Chrysene	<	330	ug/kg	23-Jan-09	20:58	PSB
Chrysene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
Dibenzo(a,h)anthracene	<	330	ug/kg	23-Jan-09	20:58	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8270C R3.0		Result	Units	Date/Time	Analyst
2,4-Dinitrophenol	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
2,4-Dinitrotoluene	<	330	ug/kg	23-Jan-09 20:58	PSB
2,4-Dinitrotoluene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2,6-Dinitrotoluene	<	330	ug/kg	23-Jan-09 20:58	PSB
2,6-Dinitrotoluene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2-Chloronaphthalene	<	330	ug/kg	23-Jan-09 20:58	PSB
2-Chloronaphthalene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2-Chlorophenol	<	330	ug/kg	23-Jan-09 20:58	PSB
2-Chlorophenol	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2-Methylnaphthalene	<	330	ug/kg	23-Jan-09 20:58	PSB
2-Methylnaphthalene	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2-Methylphenol	<	330	ug/kg	23-Jan-09 20:58	PSB
2-Methylphenol	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
2-Nitroaniline	<	1600	ug/kg	23-Jan-09 20:58	PSB
2-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
2-Nitrophenol	<	1600	ug/kg	23-Jan-09 20:58	PSB
2-Nitrophenol	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
3,3'-Dichlorobenzidine	<	660	ug/kg	23-Jan-09 20:58	PSB
3,3'-Dichlorobenzidine	<	670	ug/kg Dry	23-Jan-09 20:58	PSB
3-Nitroaniline	<	1600	ug/kg	23-Jan-09 20:58	PSB
3-Nitroaniline	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
4,6-Dinitro-2-methylphenol	<	1600	ug/kg	23-Jan-09 20:58	PSB
4,6-Dinitro-2-methylphenol	<	1700	ug/kg Dry	23-Jan-09 20:58	PSB
4-Bromophenyl-phenylether	<	330	ug/kg	23-Jan-09 20:58	PSB
4-Bromophenyl-phenylether	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
4-Chloro-3-Methylphenol	<	330	ug/kg	23-Jan-09 20:58	PSB
4-Chloro-3-Methylphenol	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
4-Chloroaniline	<	330	ug/kg	23-Jan-09 20:58	PSB
4-Chloroaniline	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
4-Chlorophenyl-phenyl Ether	<	330	ug/kg	23-Jan-09 20:58	PSB
4-Chlorophenyl-phenyl Ether	<	340	ug/kg Dry	23-Jan-09 20:58	PSB
4-Methylphenol	<	330	ug/kg	23-Jan-09 20:58	PSB
4-Methylphenol	<	340	ug/kg Dry	23-Jan-09 20:58	PSB

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Toluene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
trans-1,2-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
trans-1,2-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
trans-1,3-Dichloropropene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
trans-1,3-Dichloropropene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Trichloroethene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Trichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Vinyl Chloride	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Vinyl Chloride	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
Xylenes (Total)	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Xylenes (Total)	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG

SW-846 8270C	Result	Units	Date/Time		Analyst
Sample Preparation			19-Jan-09	11:55	AMG2
Sample Preparation			22-Jan-09	11:45	AMG2

SW-846 8270C R3.0		Result	Units	Date/Time		Analyst
1,2,4-Trichlorobenzene	<	330	ug/kg	23-Jan-09	20:58	PSB
1,2,4-Trichlorobenzene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
1,2-Dichlorobenzene	<	330	ug/kg	23-Jan-09	20:58	PSB
1,2-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
1,3-Dichlorobenzene	<	330	ug/kg	23-Jan-09	20:58	PSB
1,3-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
1,4-Dichlorobenzene	<	330	ug/kg	23-Jan-09	20:58	PSB
1,4-Dichlorobenzene	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
2,4,5-Trichlorophenol	<	1600	ug/kg	23-Jan-09	20:58	PSB
2,4,5-Trichlorophenol	<	1700	ug/kg Dry	23-Jan-09	20:58	PSB
2,4,6-Trichlorophenol	<	330	ug/kg	23-Jan-09	20:58	PSB
2,4,6-Trichlorophenol	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
2,4-Dichlorophenol	<	330	ug/kg	23-Jan-09	20:58	PSB
2,4-Dichlorophenol	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
2,4-Dimethylphenol	<	330	ug/kg	23-Jan-09	20:58	PSB
2,4-Dimethylphenol	<	340	ug/kg Dry	23-Jan-09	20:58	PSB
2,4-Dinitrophenol	<	1600	ug/kg	23-Jan-09	20:58	PSB

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2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
Carbon Disulfide	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Carbon Disulfide	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Carbon Tetrachloride	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Carbon Tetrachloride	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Chlorobenzene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Chlorobenzene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Chloroethane	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Chloroethane	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
Chloroform	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Chloroform	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Chloromethane	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Chloromethane	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
cis-1,2-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
cis-1,2-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
cis-1,3-Dichloropropene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
cis-1,3-Dichloropropene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Dibromochloromethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Dibromochloromethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Ethylbenzene	<	0.0018	mg/kg	20-Jan-09	13:56	AMG
Ethylbenzene	<	0.0018	mg/kg Dry	20-Jan-09	13:56	AMG
m,p-Xylene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
m,p-Xylene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Methylene Chloride	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Methylene Chloride	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Methyl-tert-Butyl Ether	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Methyl-tert-Butyl Ether	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
o-Xylene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
o-Xylene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Styrene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Styrene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Tetrachloroethene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Tetrachloroethene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Toluene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8082 R0.0		Result	Units	Date/Time		Analyst
PCBs Total	<	0.81	mg/kg Dry	21-Jan-09	22:22	JMT

SW-846 8260B R2.0		Result	Units	Date/Time		Analyst
1,1,1-Trichloroethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,1,1-Trichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,1,2,2-Tetrachloroethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,1,2,2-Tetrachloroethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,1,2-Trichloroethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,1,2-Trichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,1-Dichloroethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,1-Dichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,1-Dichloroethene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,1-Dichloroethene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,2-Dichloroethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,2-Dichloroethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
1,2-Dichloropropane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
1,2-Dichloropropane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
2-Butanone	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
2-Butanone	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
2-Hexanone	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
2-Hexanone	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
4-Methyl-2-pentanone	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
4-Methyl-2-pentanone	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
Acetone	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Acetone	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG
Benzene	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Benzene	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Bromodichloromethane	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Bromodichloromethane	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Bromoform	<	0.0044	mg/kg	20-Jan-09	13:56	AMG
Bromoform	<	0.0045	mg/kg Dry	20-Jan-09	13:56	AMG
Bromomethane	<	0.0088	mg/kg	20-Jan-09	13:56	AMG
Bromomethane	<	0.0089	mg/kg Dry	20-Jan-09	13:56	AMG

PDC Laboratories, Inc.
P.O. Box 9671 • Peoria, IL 61612-9671
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE Site: QUARRY SAMPLE #1 Locator: GRAB

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
beta-BHC	<	8	ug/kg	22-Jan-09 2:19	JMT
Chlordane (technical)	<	160	ug/kg	22-Jan-09 2:19	JMT
delta-BHC	<	8	ug/kg	22-Jan-09 2:19	JMT
Dieldrin	<	2	ug/kg	22-Jan-09 2:19	JMT
Endosulfan I	<	8	ug/kg	22-Jan-09 2:19	JMT
Endosulfan II	<	16	ug/kg	22-Jan-09 2:19	JMT
Endosulfan Sulfate	<	16	ug/kg	22-Jan-09 2:19	JMT
Endrin	<	16	ug/kg	22-Jan-09 2:19	JMT
Endrin Aldehyde	Q<	16	ug/kg	22-Jan-09 2:19	JMT
gamma-BHC (Lindane)	<	5	ug/kg	22-Jan-09 2:19	JMT
Heptachlor	<	8	ug/kg	22-Jan-09 2:19	JMT
Heptachlor Epoxide	<	8	ug/kg	22-Jan-09 2:19	JMT
Methoxychlor	<	80	ug/kg	22-Jan-09 2:19	JMT
Toxaphene	<	80	ug/kg	22-Jan-09 2:19	JMT

SW-846 8082	Result	Units	Date/Time	Analyst
Sample Preparation			19-Jan-09 12:00	AMG2

SW-846 8082 R0.0		Result	Units	Date/Time	Analyst
Aroclor 1016	<	0.08	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1016	<	0.081	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1221	<	0.16	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1221	<	0.16	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1232	<	0.08	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1232	<	0.081	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1242	<	0.08	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1242	<	0.081	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1248	<	0.08	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1248	<	0.081	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1254	<	0.16	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1254	<	0.16	mg/kg Dry	21-Jan-09 22:22	JMT
Aroclor 1260	<	0.16	mg/kg	21-Jan-09 22:22	JMT
Aroclor 1260	<	0.16	mg/kg Dry	21-Jan-09 22:22	JMT
PCBs Total	<	0.8	mg/kg	21-Jan-09 22:22	JMT

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Pangea, Inc
2604 S. Jefferson Ave.

St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #1 | Locator: GRAB

SW-846 6020		Result	Units	Date/Time	Analyst
Copper	<	3	mg/kg	29-Jan-09 8:22	JMW
Copper	<	3	mg/kg Dry	29-Jan-09 8:22	JMW
Lead		1.3	mg/kg	28-Jan-09 9:47	JMW
Lead		1.4	mg/kg Dry	28-Jan-09 9:47	JMW
Magnesium		17000	mg/kg	28-Jan-09 9:47	JMW
Magnesium		17000	mg/kg Dry	28-Jan-09 9:47	JMW
Manganese		59	mg/kg	28-Jan-09 9:47	JMW
Manganese		60	mg/kg Dry	28-Jan-09 9:47	JMW
Mercury	<	0.2	mg/kg	28-Jan-09 9:47	JMW
Mercury	<	0.2	mg/kg Dry	28-Jan-09 9:47	JMW
Nickel		20	mg/kg	28-Jan-09 9:47	JMW
Nickel		21	mg/kg Dry	28-Jan-09 9:47	JMW
Potassium		200	mg/kg	28-Jan-09 9:47	JMW
Potassium		200	mg/kg Dry	28-Jan-09 9:47	JMW
Selenium	<	1	mg/kg	28-Jan-09 9:47	JMW
Selenium	<	1	mg/kg Dry	28-Jan-09 9:47	JMW
Silver	<	5	mg/kg	28-Jan-09 9:47	JMW
Silver	<	5.1	mg/kg Dry	28-Jan-09 9:47	JMW
Sodium		160	mg/kg	28-Jan-09 9:47	JMW
Sodium		170	mg/kg Dry	28-Jan-09 9:47	JMW
Thallium	<	1	mg/kg	28-Jan-09 9:47	JMW
Thallium	<	1	mg/kg Dry	28-Jan-09 9:47	JMW
Vanadium	<	5	mg/kg	28-Jan-09 9:47	JMW
Vanadium	<	5.1	mg/kg Dry	28-Jan-09 9:47	JMW
Zinc		21	mg/kg	28-Jan-09 9:47	JMW
Zinc		22	mg/kg Dry	28-Jan-09 9:47	JMW

SW-846 8081A R1.0		Result	Units	Date/Time	Analyst
4,4'-DDD	<	16	ug/kg	22-Jan-09 2:19	JMT
4,4'-DDE	Q<	16	ug/kg	22-Jan-09 2:19	JMT
4,4'-DDT	<	16	ug/kg	22-Jan-09 2:19	JMT
Aldrin	<	8	ug/kg	22-Jan-09 2:19	JMT
alpha-BHC	<	0.35	ug/kg	22-Jan-09 2:19	JMT

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St. Louis, MO 63118-1505

Attn: Mr. Scott Ely

Date Received: 19-Jan-09
Date Reported: 29-Jan-09

Sample No: 09012657-1 | Collect Date: 15-Jan-09 15:00
Client Id: CASPER STOLLE | Site: QUARRY SAMPLE #1 | Locator: GRAB

		Result	Units	Date/Time	Analyst
Sample Preparation				19-Jan-09 12:00	AMG2
SM (18) 2540B		**Result**	**Units**	**Date/Time**	**Analyst**
Moisture		1.5	%	19-Jan-09 11:42	jrb
SM 4500-CN C, G		**Result**	**Units**	**Date/Time**	**Analyst**
Cyanide, Total	<	1.2	mg/kg	27-Jan-09 14:54	lgalr
Cyanide, Total	<	1.3	mg/kg Dry	27-Jan-09 14:54	lgalr
SW-846 3051		**Result**	**Units**	**Date/Time**	**Analyst**
Sample Preparation				23-Jan-09 10:00	BAB
SW-846 6010B R2.0		**Result**	**Units**	**Date/Time**	**Analyst**
Aluminum		310	mg/kg	27-Jan-09 10:00	KJP
Aluminum		310	mg/kg Dry	27-Jan-09 10:00	KJP
Iron		770	mg/kg	27-Jan-09 10:00	KJP
Iron		780	mg/kg Dry	27-Jan-09 10:00	KJP
SW-846 6020		**Result**	**Units**	**Date/Time**	**Analyst**
Antimony	<	3	mg/kg	28-Jan-09 9:47	JMW
Antimony	<	3	mg/kg Dry	28-Jan-09 9:47	JMW
Arsenic	<	1	mg/kg	28-Jan-09 9:47	JMW
Arsenic	<	1	mg/kg Dry	28-Jan-09 9:47	JMW
Barium		8.6	mg/kg	28-Jan-09 9:47	JMW
Barium		8.7	mg/kg Dry	28-Jan-09 9:47	JMW
Beryllium	<	1	mg/kg	28-Jan-09 9:47	JMW
Beryllium	<	1	mg/kg Dry	28-Jan-09 9:47	JMW
Cadmium	<	1	mg/kg	28-Jan-09 9:47	JMW
Cadmium	<	1	mg/kg Dry	28-Jan-09 9:47	JMW
Calcium		310000	mg/kg	28-Jan-09 9:47	JMW
Calcium		310000	mg/kg Dry	28-Jan-09 9:47	JMW
Chromium		5	mg/kg	28-Jan-09 9:47	JMW
Chromium		5	mg/kg Dry	28-Jan-09 9:47	JMW
Cobalt	<	2	mg/kg	28-Jan-09 9:47	JMW
Cobalt	<	2	mg/kg Dry	28-Jan-09 9:47	JMW

Solutia – 368

"Rinaldi, Gerald M"
<gmrina@solutia.com>
03/02/2009 01:23 PM

To Kenneth Bardo/R5/USEPA/US@EPA

cc "Shank, Brett D" <bdshan@solutia.com>,
<james.k.moore@illinois.gov>

bcc

Subject Solutia, Sauget, IL - Mercury - Groundwater Sampling 2/23/09

Today you should have received the "Construction Completion Report for Remediation of Mercury in Soils" sent via FedEx late Friday. Per Page 6 of that report: "Laboratory results from the first [groundwater] sampling event (conducted February 23, 2009) and subsequent events will be provided as they become available."

After sending the FedEx, Solutia received the attached subject results and the corresponding groundwater sampling data sheet. The mercury concentration in unfiltered groundwater was 0.63 ug/L or 0.00063 ppm, less than the "MCL" of 2 ug/L or 0.002 ppm and almost identical to the 0.67 ug/L or 0.00067 ppm in the most recent prior sample, reported to you October 7, 2008, and taken September 19, 2008, from the piezometer replaced by new well MA-MW-01 during the just-completed remediation.

Well MA-MW-01 is scheduled to be sampled again in May, August, and November of this year.

G. M. (Jerry) Rinaldi - 2N
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8957
E-mail gmrina@solutia.com

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022309 Hg Lab Report.pdf 022309 Hg Sampling Sheet.pdf

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK CM/NorWell Hg Area PROJECT NUMBER: 21562122.00000 FIELD PERSONNEL: M. Corbett, S. Moore
DATE: 2/23/09 WEATHER: Sunny, 42°
MONITORING WELL ID: MA-MW-01 SAMPLE ID: MA-MW-01, MA-MW-01-F(0.45)

INITIAL DATA

Well Diameter: 2 in
Total Well Depth (btoc): 25.51 ft
Depth to Water (btoc): 15.22 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 20.51 ft
Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): 10.29 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) = 23.01 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~~ 1,150 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) ~~1500~~ 3,450 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Stainless Steel Monsoon

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1620	15.32	brown	hydrocarbon	7.97	14.71	2.626	66.1	1.16	-129.2
1200	1626	15.31			7.97	14.89	2.634	73.6	1.09	-152.5
2400	1632	15.30			7.98	15.06	2.642	67.2	1.72	-188.3
3600	1638				7.99	15.09	2.641	65.7	1.92	-195.9
4800	1644				7.98	15.22	2.638	57.2	2.18	-202.8
6000	1650				7.99	15.15	2.640	47.9	2.36	-209.4
7200	1656				7.99	15.09	2.641	41.2	2.45	-215.0
8400	1702				7.99	14.92	2.644	39.0	2.75	-217.5
9600	1708				7.99	15.00	2.643	38.4	2.98	-218.2
10800	1714				7.99	15.01	2.645	37.5	3.05	-220.2
12000	1720				7.99	14.97	2.644	36.8	3.17	-221.1

Start Time: 1620
Stop Time: 1720
Elapsed Time: 60 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: YSI 6920 ~~YSI 556 and LaMotte 2020~~ MC
Date Calibrated:

SAMPLING DATA

Sample Date: 2/23/09
Sample Method: Stainless Steel Monsoon
Sample Time: 1725
Sample Flow Rate: 200
Analysis: Hg, Hg(Filtered)
Date Calibrated:

COMMENTS:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 680-44963-1

SDG Number: KRM093

Job Description: WGK Hg Area Delineation 2/23/09

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

Attention: Mr. Jerry Rinaldi

Approved for release
Lidya Gulizia
Project Manager I
2/26/2009 5:22 PM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
02/26/2009

cc: Mr. Jeff Adams
Mr. Bob Billman
Mr. Richard Williams

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

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

Metals
No analytical or quality issues were noted.

Comments
The client IDs were revised per URS e-mail instructions received on February 24, 2009.

No additional comments.

METHOD SUMMARY

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Description	Lab Location	Method	Preparation Method
Matrix Water			
Mercury (CVAA)	TAL SAV	SW846 7470A	
Preparation, Mercury	TAL SAV		SW846 7470A

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Method	Analyst	Analyst ID
SW846 7470A	Bland, Brian	BCB

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-44963-1	MA-MW01-0209	Water	02/23/2009 1725	02/24/2009 0901
680-44963-2	MA-MW01-F(0.45)-0209	Water	02/23/2009 1725	02/24/2009 0901

SAMPLE RESULTS

Analytical Data

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Client Sample ID: **MA-MW01-0209**

Lab Sample ID:	680-44963-1	Date Sampled:	02/23/2009 1725
Client Matrix:	Water	Date Received:	02/24/2009 0901

7470A Mercury (CVAA)

Method:	7470A	Analysis Batch: 680-131146	Instrument ID:	LEEMAN1
Preparation:	7470A	Prep Batch: 680-131071	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	02/24/2009 1912		Final Weight/Volume:	50 mL
Date Prepared:	02/24/2009 1430			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Mercury	0.63		0.080	0.20

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Client Sample ID: **MA-MW01-F(0.45)-0209**

Lab Sample ID:	680-44963-2	Date Sampled:	02/23/2009 1725
Client Matrix:	Water	Date Received:	02/24/2009 0901

7470A Mercury (CVAA)

Method:	7470A	Analysis Batch: 680-131146	Instrument ID:	LEEMAN1
Preparation:	7470A	Prep Batch: 680-131071	Lab File ID:	N/A
Dilution:	1.0		Initial Weight/Volume:	50 mL
Date Analyzed:	02/24/2009 1914		Final Weight/Volume:	50 mL
Date Prepared:	02/24/2009 1430			

Analyte	Result (ug/L)	Qualifier	MDL	RL
Mercury	0.15	J	0.080	0.20

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Lab Section	Qualifier	Description
Metals		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

QUALITY CONTROL RESULTS

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 680-131071					
LCS 680-131071/24-A	Lab Control Spike	T	Water	7470A	
MB 680-131071/23-A	Method Blank	T	Water	7470A	
680-44963-1	MA-MW01-0209	T	Water	7470A	
680-44963-2	MA-MW01-F(0.45)-0209	T	Water	7470A	
Analysis Batch:680-131146					
LCS 680-131071/24-A	Lab Control Spike	T	Water	7470A	680-131071
MB 680-131071/23-A	Method Blank	T	Water	7470A	680-131071
680-44963-1	MA-MW01-0209	T	Water	7470A	680-131071
680-44963-2	MA-MW01-F(0.45)-0209	T	Water	7470A	680-131071

Report Basis
T = Total

Client: Solutia Inc.

Job Number: 680-44963-1
Sdg Number: KRM093

Method Blank - Batch: 680-131071

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 680-131071/23-A	Analysis Batch:	680-131146	Instrument ID:	LEEMAN1
Client Matrix:	Water	Prep Batch:	680-131071	Lab File ID:	N/A
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	50 mL
Date Analyzed:	02/24/2009 1907			Final Weight/Volume:	50 mL
Date Prepared:	02/24/2009 1430				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.080	0.20

Lab Control Spike - Batch: 680-131071

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 680-131071/24-A	Analysis Batch:	680-131146	Instrument ID:	LEEMAN1
Client Matrix:	Water	Prep Batch:	680-131071	Lab File ID:	N/A
Dilution:	1.0	Units:	ug/L	Initial Weight/Volume:	50 mL
Date Analyzed:	02/24/2009 1909			Final Weight/Volume:	50 mL
Date Prepared:	02/24/2009 1430				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	2.50	2.55	102	80 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 019022

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-Hg Area	PROJECT NO.: 21562122	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: J. Adams	CLIENT PHONE: 314-429-0100	CLIENT FAX:	EXPEDITED REPORT DELIVERY (SURCHARGE): ● DATE DUE: ASAP
CLIENT NAME: URS	CLIENT E-MAIL: thomas_adams@urscorp.com		
CLIENT ADDRESS: 1001 Highlands Plaza Dr. West Ste 300 St. Louis, MO 63110			
COMPANY CONTRACTING THIS WORK (if applicable): —			NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

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

REQUIRED ANALYSIS: HNO_3 Hg

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION *	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	HNO_3 Hg	REMARKS
2/23/09	1725	MA-MW-01 → MA-MW01-0209		X				1	
2/23/09	1725	MA-MW-F(0.45) → MA-MW01-F(0.45)-0209 *		X				1	* Client IDs Revised per Jeff Adams. LG 2/24/09

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	2/23/09	1800						
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]	022409	0901	YES ○ NO ○		68044963	2.0 TEMP

TAL8240-680 (1207)

Login Sample Receipt Check List

Client: URS Corporation

Job Number: 680-44963-1
SDG Number: KRM093

Login Number: 44963
Creator: Hall, Karl I
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	MS/MSD not requested (no additional volume provided).
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	Mercury rush analysis.
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	

Solutia – 369

SOLUTIA

Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

March 4, 2009

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

VIA EMAIL

Re: Work Plan for Additional PCB Delineation
Solutia Inc., W.G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Pursuant to the U.S. EPA February 20, 2009 *Response to Solutia Updates on Remediation of PCBs in Soil*, Solutia is submitting this work plan detailing proposed additional on-site and off-site soil boring locations. Proposed soil boring locations are shown on the attached figures. All soil samples will be collected using a track-mounted Geoprobe™ unit or hand auger. Additional details are provided in the following sections.

S0607 (refer to Figure 3)
As requested by U.S. EPA, two additional surficial (0-2 feet) on-site borings will be installed equidistant between the B-26/B-34 and B-35 excavations. The purpose of these borings is to determine if these excavations need to be combined into one larger excavation. Soil samples from both borings will be collected and analyzed.

Five proposed off-site surficial soil borings will be installed at the approximate locations shown on Figure 3, in the Illinois Department of Transportation (IDOT) right-of-way for Illinois Route 3. On February 19, Solutia submitted a permit application to IDOT for access to the east right-of-way of Illinois Route 3. Samples from the proposed borings immediately west of borings B-65 and B-66 will be collected and analyzed. The laboratory will be instructed to extract and hold the remaining samples pending receipt of results for the samples west of B-65 and B-66. If PCB concentrations above 25 parts per million (ppm) are detected in either of the samples west of B-65 or B-66, the lab will be instructed to analyze the two samples on either side of the boring in question. The topography between Route 3 and the Solutia property boundary prohibits Geoprobe™ access. Therefore the five off-site borings will be installed using a hand auger.

S0609 (refer to Figure 5)
As requested by U.S. EPA, two additional surficial soil borings will be installed 40 feet and 60 feet north of soil boring B-69. The soil sample collected from the boring 40 feet north of B-69 will be analyzed; the sample from the boring 60 feet north of B-69 will be extracted and held pending results of the 40-foot sample. The exact location of these two proposed borings will be determined in the field, as there are underground utilities in the vicinity.

Twenty-four surficial soil borings will be installed at the approximate locations shown on Figure 5 south of Solutia's southern property boundary. This property is owned by Alton & Southern Railroad (a subsidiary of Union Pacific Railroad). On Feburary 13, Solutia submitted an access request to Union Pacific Railroad.

For each "pair" of proposed borings, the sample collected from the northernmost boring will be analyzed. All samples from the southernmost borings will be extracted and held pending receipt of laboratory results for the northern borings. If laboratory results indicate a PCB concentration above 25 ppm in samples collected from the northern row of borings, the corresponding sample from the southern row of borings will be analyzed.

S0715 (refer to Figure 6)
As requested by U.S. EPA, three additional surficial soil borings will be installed in this area. One boring will be halfway between borings B-9 and B-20, one will be halfway between B-21 and B-26, and one will be halfway between B-22 and B-55. The purpose of these borings is to determine if the adjoining excavations need to be combined into larger excavations.

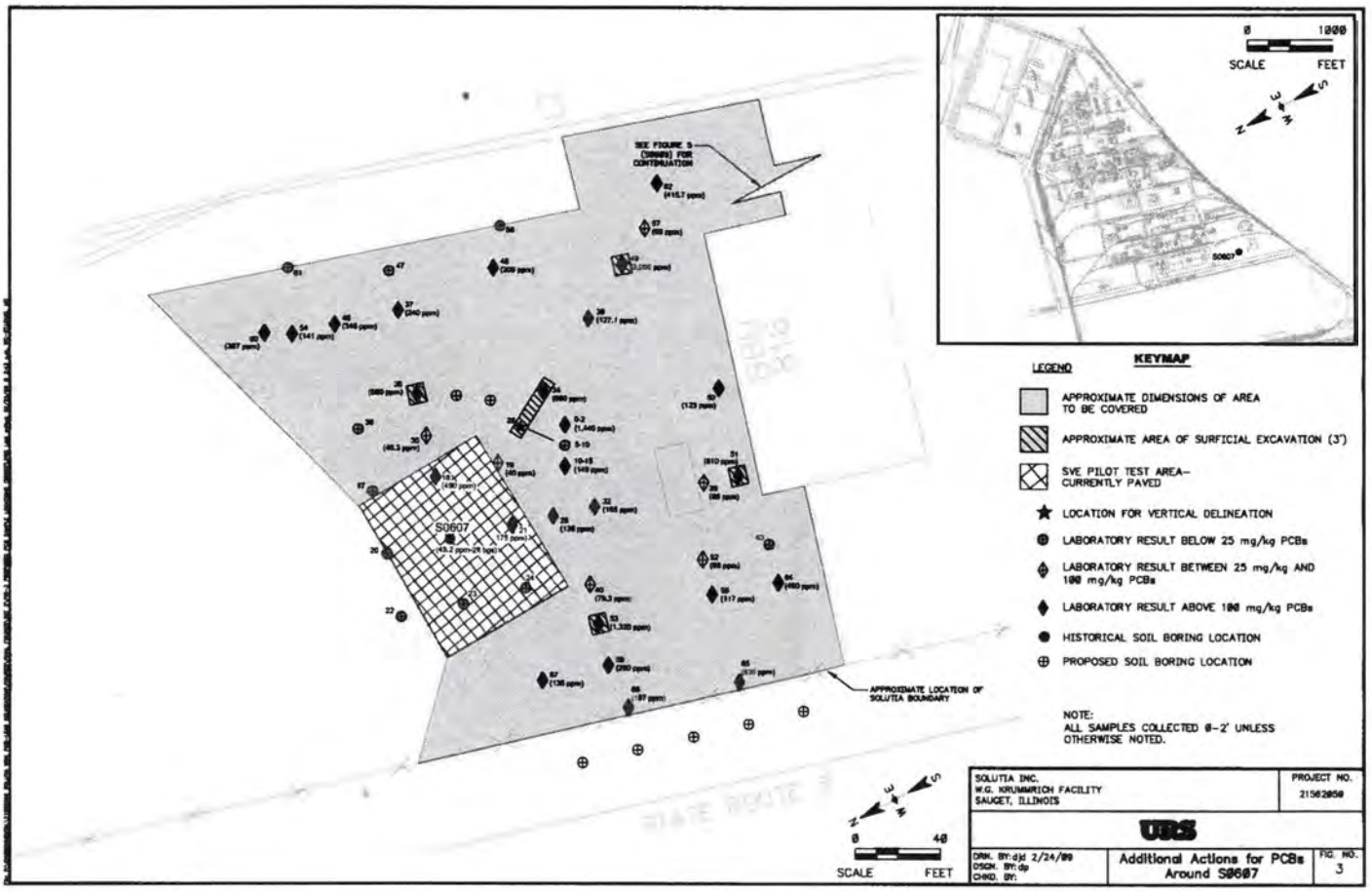
If you have any questions or require additional information, please contact me at 314.674.3312, or at gmrina@solutia.com.

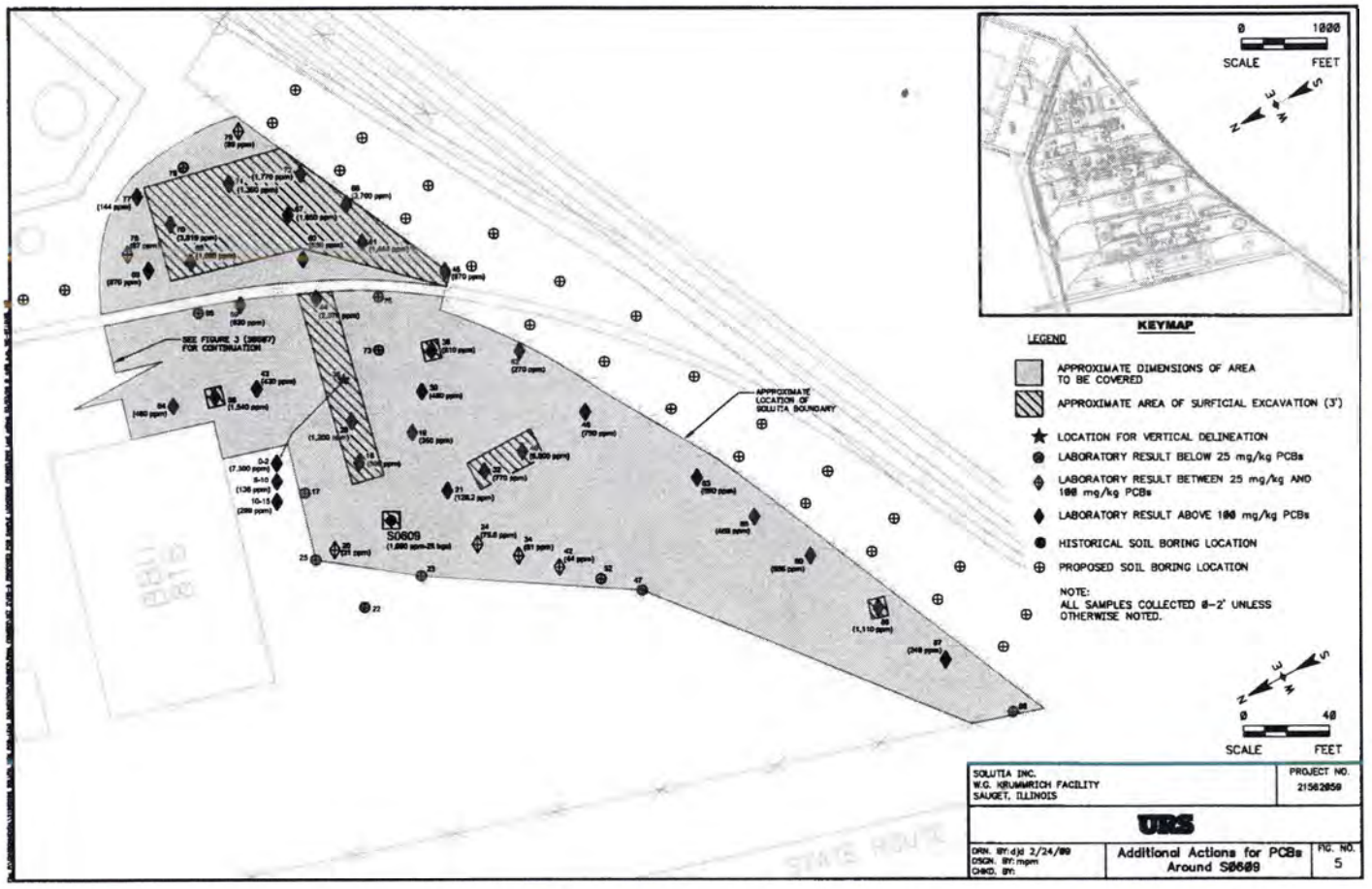
Sincerely,

Gerald M. Rinaldi

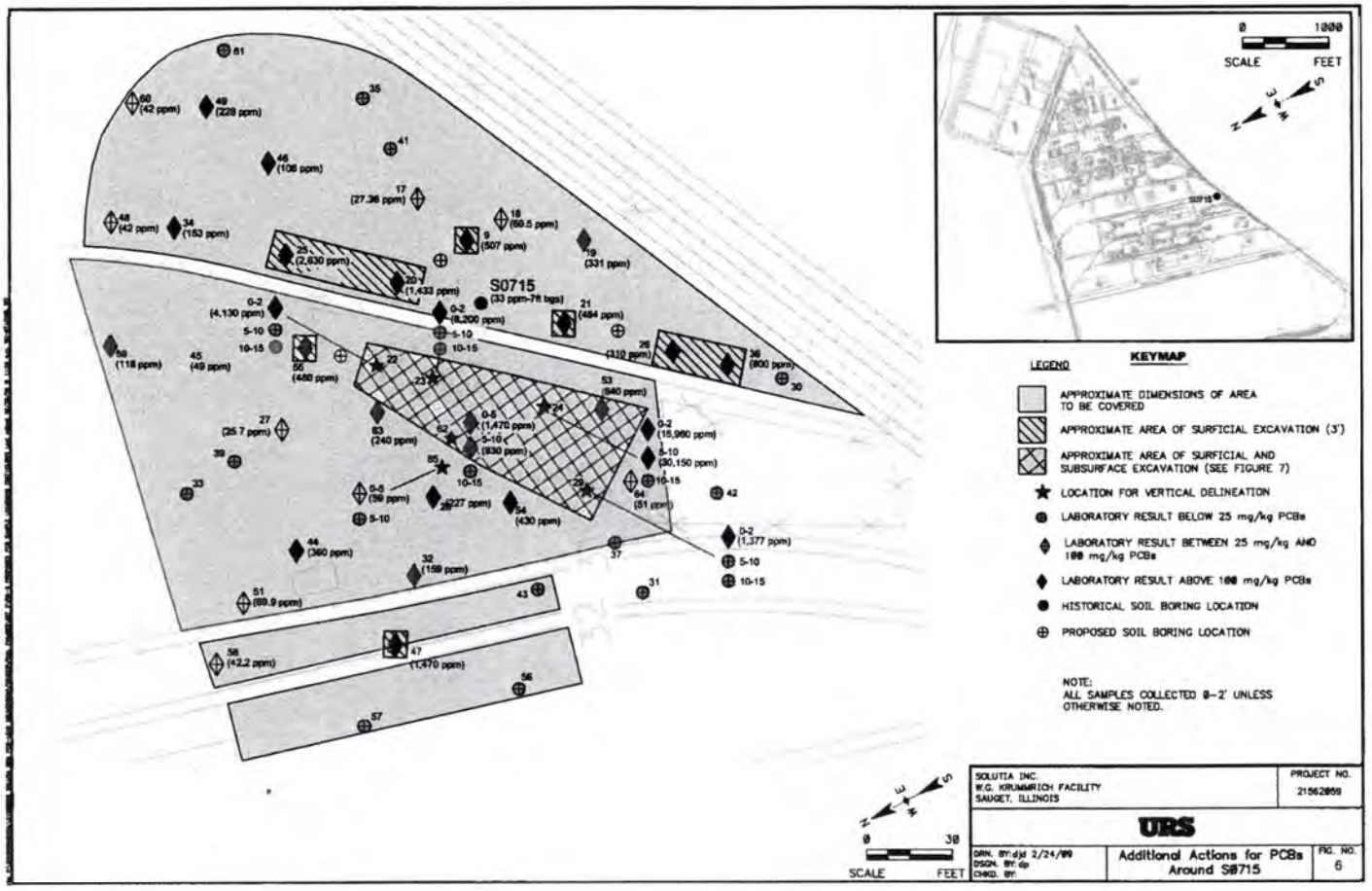
Gerald M. Rinaldi
Manager, Remediation Services

Attachments


SEE FIGURE 3 - DRAWING FOR CONTINUATION
S0607
APPROXIMATE LOCATION OF SOLUTIA BOUNDARY
STATE ROUTE 3
0 40
SCALE FEET
0 1000
SCALE FEET
KEYMAP
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
SVE PILOT TEST AREA-CURRENTLY PAVED
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
PROPOSED SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562050
URS
DRN. BY: djd 2/24/99
DSGN. BY: dp
CHKD. BY:
Additional Actions for PCBs Around S0607
FIG. NO.
3



SEE FIGURE 3 (S0607) FOR CONTINUATION
APPROXIMATE LOCATION OF SOLUTIA BOUNDARY
S0609
STATE ROUTE
0 1000
SCALE FEET
KEYMAP
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
PROPOSED SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.
0 40
SCALE FEET
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562059
URS
DRN. BY: djd 2/24/09
DSGN. BY: mpm
CHKD. BY:
Additional Actions for PCBs Around S0609
FIG. NO.
5


S0715
(33 ppm-7ft bgs)
0 1000
SCALE FEET
KEYMAP
LEGEND
APPROXIMATE DIMENSIONS OF AREA TO BE COVERED
APPROXIMATE AREA OF SURFICIAL EXCAVATION (3')
APPROXIMATE AREA OF SURFICIAL AND SUBSURFACE EXCAVATION (SEE FIGURE 7)
LOCATION FOR VERTICAL DELINEATION
LABORATORY RESULT BELOW 25 mg/kg PCBs
LABORATORY RESULT BETWEEN 25 mg/kg AND 100 mg/kg PCBs
LABORATORY RESULT ABOVE 100 mg/kg PCBs
HISTORICAL SOIL BORING LOCATION
PROPOSED SOIL BORING LOCATION
NOTE:
ALL SAMPLES COLLECTED 0-2' UNLESS OTHERWISE NOTED.
0 30
SCALE FEET
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
PROJECT NO.
21562859
URS
DRN. BY: djd 2/24/99
DSGN. BY: dp
CHKD. BY:
Additional Actions for PCBs Around S0715
FIG. NO.
6

Solutia – 370

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 9, 2009

REPLY TO THE ATTENTION OF
LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Comments on Work Plan for Additional PCB Delineation
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

EPA has completed a review of the *Work Plan for Additional PCB Delineation* submitted on March 4, 2009. The work plan was submitted in response to EPA's letters of February 20 and 23, 2009, regarding offsite sampling near soil borings S0607-B-65 and B-66, and from soil borings S0609-B-79 to B-88.

EPA provides the enclosed comments on the work plan. If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo, EPA Project Manager
Corrective Action Section

cc: Jim Moore, Illinois EPA

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ENCLOSURE

Cleanup Goal: Cite or provide applicable regulations and/or guidance for the use of 25 ppm as the "clean" level for PCBs in offsite soil in the work plan. As used onsite for PCB remediation following self-implementing procedures, a cleanup goal of 25 ppm residual PCB contamination in surface soil only applies to low occupancy areas.

If an authorized entity can acknowledge that the exposure duration is only 6.7 hours per week along the railroad tracks and/or Illinois Route 3 right-of-way, a low occupancy cleanup goal may apply. For unrestricted use of offsite property, a 1 ppm cleanup goal would apply. In the alternative, risk evaluation is an option. A conceptual site model and migratory pathways associated with offsite PCB deposition would be developed and a risk evaluation performed based on the approved conceptual site model.

Additional Onsite Sampling: Additional onsite sampling is proposed "as requested by U.S. EPA", to determine if proposed excavations need to be combined into one larger excavation. For clarification, in EPA's February 20, 2009, letter, Solutia's proposed excavations were modified by EPA to be extended and connected because of their proximity to one another. In the alternative, EPA provided Solutia an option to analyze soil between excavations and re-evaluate the need to excavate the intermediate area, subject to EPA approval.

S0607: Solutia is proposing to obtain five soil samples offsite and west of S0607-B-65 and B-66, but analyze for PCBs at only two locations. The other three samples could be analyzed if warranted based on PCB concentrations >25 ppm in one or both of the initial locations due west of S0607-B-65 and B-66.

To provide for representative offsite sampling, all five sample locations located in the proposed area 120' long and at 30' intervals should be analyzed for PCB homologs to support no further action or additional sampling. Additional sampling to the north and/or south would be conducted if PCBs concentrations are found to exceed the cleanup goal in the initial representative sampling area.

In addition, the access road from the W.G. Krummrich Plant to Illinois State Route 3 located just north of the former diked containment area for Big Mo that was noted in aerial photographs may have resulted in the deposition of runoff from the S0607 and S0609 areas. Propose in the work plan a representative sampling program of soil/sediment from this potential depositional area using PCB immunoassay kits capable of screening for PCBs > 25 ppm.

For the offsite area to be sampled west of S0607-B-65 and B-66, provide a discussion on the proposed five sample locations for PCB homologs. For example, will samples be taken from the sideslope or bottom of ditch area; what will be the sample depths; will the entire hand auger sample be mixed and composited; if grass is present, will the surface matted root zone be included in the sample or discarded. Provide photos of the offsite areas and all sample locations in the data evaluation report.

S0609: Solutia is proposing to obtain twenty-four soil samples offsite and south of S0609-B-79 to B-88, and initially analyze the most northerly twelve locations. The other samples would be analyzed if warranted based on PCB concentrations >25 ppm in the initial locations.

EPA agrees with this approach, as modified to include additional sample locations 40' east and/or west of the most easterly and westerly sample locations, if PCBs concentrations (based on homologs) are found to exceed the cleanup goal at either location.

For the offsite area to be sampled south of S0607-B-79 and B-88, provide a discussion on the proposed sample locations. For example, will samples be taken using a track-mounted Geoprobe™ unit or hand auger; what will be the sample depths; will the entire sample depth be mixed and composited; if grass is present, will the surface matted root zone be included in the sample or discarded; if stones or cinders are encountered at the railroad area, how will sampling be performed. Provide photos of the offsite areas and all sample locations in the data evaluation report.

Solutia – 371

Solutia – 373

SOLUTIA
Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

March 13, 2009

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

VIA EMAIL

Re: Response to U.S. EPA Comments on Work Plan for Additional PCB Delineation
Solutia Inc., W.G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Solutia is in receipt of the U.S. EPA March 9, 2009 correspondence titled *Comments on Work Plan for Additional PCB Delineation*. U.S. EPA comments are provided below, along with the corresponding Solutia response.

Cleanup Goal: Cite or provide applicable regulations and/or guidance for the use of 25 ppm as the "clean" level for PCBs in offsite soil in the work plan. As used onsite for PCB remediation following self-implementing procedures, a cleanup goal of 25 ppm residual PCB contamination in surface soil only applies to low occupancy areas.

If an authorizing entity can acknowledge that the exposure duration is only 6.7 hours per week along the railroad tracks and/or Illinois Route 3 right-of-way, a low occupancy cleanup goal may apply. For unrestricted use of offsite property, a 1 ppm cleanup goal would apply. In the alternative, risk evaluation is an option. A conceptual site model and migratory pathways associated with offsite PCB deposition would be developed and a risk evaluation performed based on the approved conceptual site model.

Solutia Response: Solutia acknowledges the "unrestricted use" cleanup goal is 1 ppm, as specified in 40 CFR 761.61(a)4(i)(A). However, Solutia believes both the Illinois Route 3 right-of-way and the railroad property meet the criteria to be considered low-occupancy areas, as defined in 40 CFR 761.3. Following installation of the proposed off-site soil borings and receipt of analytical data for all off-site soil samples, Solutia will provide U.S. EPA a recommendation as to future activities related to the potentially affected off-site properties, e.g. acknowledgement of low-occupancy exposure duration.

Additional Onsite Sampling: Additional onsite sampling is proposed "as requested by U.S. EPA", to determine if proposed excavations need to be combined into one larger

excavation. For clarification, in EPA's February 20, 2009, letter, Solutia's proposed excavations were modified by EPA to be extended and connected because of their proximity to one another. In the alternative, EPA provided Solutia an option to analyze soil between excavations and re-evaluate the need to excavate the intermediate area, subject to EPA approval.

Solutia Response: Agreed. As part of the mobilization to assess off-site properties, Solutia will also collect soil samples between excavations as proposed in Solutia's March 4, 2009, work plan. Upon receipt of analytical data for those samples, Solutia will re-evaluate the need to excavate the intermediate areas and will provide U.S. EPA a recommendation as to such.

S0607: Solutia is proposing to obtain five soil samples offsite and west of S0607-B-65 and B-66, but analyze for PCBs at only two locations. The other three samples could be analyzed if warranted based on PCB concentrations > 25 ppm in one or both of the initial locations due west of S0607-B-65 and B-66.

To provide for representative offsite sampling, all five sample locations located in the proposed area 120' long and at 30' intervals should be analyzed for PCB homologs to support no further action or additional sampling. Additional sampling to the north and/or south would be conducted if PCBs concentrations are found to exceed the cleanup goal in the initial representative sampling area.

In addition, the access road from the W.G. Krummrich Plant to Illinois State Route 3 located just north of the former diked containment area for Big Mo that was noted in aerial photographs may have resulted in the deposition of runoff from the S0607 and S0609 areas. Propose in the work plan a representative sampling program of soil/sediment from this potential depositional area using PCB immunoassay kits capable of screening for PCBs > 25 ppm.

For the offsite area to be sampled west of S0607-B-65 and B-66, provide a discussion on the proposed five sample locations for PCB homologs. For example, will samples be taken from the sideslope or bottom of ditch area; what will be the sample depths; will the entire hand auger sample be mixed and composited; if grass is present, will the surface matted root zone be included in the sample or discarded. Provide photos of the offsite areas and all sample locations in the data evaluation report.

Solutia Response: Each of the five soil samples collected from the proposed offsite borings west of S0607-B-65 and B-66 will be analyzed. These samples will be taken from the flat area immediately west of the Solutia fence. Reference the attached photo (W of Solutia.jpg) for additional information on this sample area. As the area is grass-covered, Solutia's consultant will remove any grass and root zone material prior to placing soil in the sample jar. A composite sample of soil from just below the root zone down to two feet below grade will be submitted for analysis.

The former access road is greater than 200 feet from the northernmost borings associated with Area S0607. Furthermore, these borings have established a boundary at which PCB concentrations in surficial soils are < 25 ppm. Therefore, additional investigation in the area of the former access road is not warranted.

S0609: Solutia is proposing to obtain twenty-four soil samples offsite and south of S0609-B-79 to B-88, and initially analyze the most northerly twelve locations. The other samples would be analyzed if warranted based on PCB concentrations > 25 ppm in the initial locations.

EPA agrees with this approach, as modified to include additional sample locations 40' east and/or west of the most easterly and westerly sample locations, if PCBs concentrations (based on homologs) are found to exceed the cleanup goal at either location.

For the offsite area to be sampled south of S0607-B-79 and B-88, provide a discussion on the proposed samples locations. For example, will samples be taken using a track-mounted Geoprobe™ unit or hand auger; what will be the sample depths; will the entire sample depth be mixed and composited; if grass is present, will the surface matted root zone be included in the sample or discarded; if stones or cinders are encountered at the railroad area, how will sampling be performed. Provide photos of the offsite areas and all sample locations in the data evaluation report.

Solutia Response: If PCB concentrations > 25 ppm are detected in the easternmost or westernmost borings, additional samples will be collected on a 40-foot "stepout" from the appropriate location.

The proposed borings south of S0609-B-79 through B-88 will be installed using a track-mounted Geoprobe ™ unit. This area currently has no vegetative cover. Soil will be collected to two feet below grade and composited into a sample at each location. Any stones or cinders will be removed prior to placing soil in the sample container. Reference the attached photo (S of Solutia.jpg) for more information on this sample area.

If you have any questions or require additional information, please contact me at 314.674.3312, or at gmrina@solutia.com.

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Attachments

Solutia – 374

PCB Groundwater Quality Assessment, 4th Quarter 2008, Long-Term Monitoring Program, 4th Quarter 2008 and Route 3 Drum Site 4th Quarter 2008 (CD ONLY)

Solutia – 376

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 18, 2009

REPLY TO THE ATTENTION OF:
LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Response to Work Plan for Additional PCB Delineation
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

EPA has reviewed Solutia's March 13, 2009, response to comments on the *Work Plan for Additional PCB Delineation*. Below is a discussion of Solutia's response to EPA comments.

Cleanup Goal: EPA agrees to Solutia providing a recommendation for future activities at potentially affected off-site properties after all off-site soil sampling is completed. Any acknowledgement of low-occupancy exposure duration on property not owned by Solutia would need to be provided by the authorizing entity owning that property.

Additional Onsite Sampling: No response necessary.

S0607: EPA notes in the photo provided for the sampling area that utilities such as power poles and sewer manholes are present. Based on the five surficial soil sample results, additional characterization may be required, including vertical delineation to assess potential risks posed to utility workers.

EPA understands that soil sampling will be in the low area at the base of the steep slope from Illinois Route 3 and shallow slope from the Solutia fence line. In the photo provided in a March 13 e-mail, the low area to be sampled would be just left of the manhole and right of the utility pole.

Solutia does not believe that sampling in the area of the access road is warranted at this time because of a 200-foot distance from the S0607 area. Solutia will conduct a

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phased approach for off-site investigations similar to that performed on-site. Additional mobilizations may be necessary to adequately define the extent of contamination (horizontally and/or vertically) based on the results from the five initial surficial soil samples.

S0609: Additional mobilizations may be necessary to adequately define the extent of contamination (horizontally and/or vertically) based on the results from the initial surfical soil sampling program.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo, EPA Project Manager
Corrective Action Section

cc: Jim Moore, Illinois EPA

Solutia – 377

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 30, 2009

REPLY TO THE ATTENTION OF LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Gerald Rinaldi - 2N
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

RE: Approval of Lead Remediation Construction Completion Report and O&M Plan
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

We have completed a review of the *Construction Completion Report Remediation of Lead in Soils at Various Locations on the Solutia W.G. Krummrich Plant Sauget, Illinois*, including an O&M Plan, submitted on February 27, 2009, and revised text submitted on March 13, 2009. The Construction Completion Report and O&M Plan are required as part of the U.S. EPA Final Decision effective February 28, 2008.

EPA approves the Completion Construction Report and O&M Plan. Please incorporate the February 27, 2009, tables, figures, and attachments with the March 13, 2009, remedy certification statement and revised text, and place the complete report in the local public repository.

If you have any questions, please contact me at 312-886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo
EPA Project Manager
Corrective Action Section

cc: Jim Moore, IEPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 30, 2009

REPLY TO THE ATTENTION OF LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Gerald Rinaldi - 2N
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

RE: Approval of Mercury Remediation Construction Completion Report
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

We have completed a review of the *Construction Completion Report Remediation of Mercury in Soils at the Former Chlor-Alkali Area on the Solutia W.G. Krummrich Plant Sauget, Illinois*, including groundwater monitoring, submitted on February 27, 2009, and revised text submitted on March 13, 2009. The Construction Completion Report is required as part of the U.S. EPA Final Decision effective February 28, 2008.

EPA approves the Completion Construction Report and groundwater monitoring program. Please incorporate the February 27, 2009, tables, figures, and attachments with the March 13, 2009, remedy certification statement and revised text, and place the complete report in the local public repository.

If you have any questions, please contact me at 312-886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo
EPA Project Manager
Corrective Action Section

cc: Jim Moore, IEPA

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SOLUTIA

Solutions for a better life

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

March 31, 2009

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

VIA EMAIL

Re: Off-Site Access Update, PCBs in Soils Delineation
Solutia Inc., W.G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Solutia Inc. (Solutia) is providing U.S. EPA this update regarding the status of off-site access in reference to delineation of PCBs in soils west and south of Solutia's W.G. Krummrich Plant, Sauget, Illinois.

U.S. EPA's May 3, 2000, *Administrative Order on Consent*, Section VII.2 states: "*...Solutia Inc. must use its best efforts to obtain access agreements necessary to complete work required by this Order from the present owner(s) of such property within 60 days of the date that the need for access becomes known to Solutia Inc....In the event that agreements for access are not obtained within 60 days, Solutia Inc. must notify U.S. EPA in writing within 14 days thereafter of both the efforts undertaken to obtain access and the failure to obtain access agreements.*" U.S. EPA's January 16, 2009, correspondence indicated off-site delineation would be necessary. Proposed off-site boring locations were outlined in Solutia's March 4, 2009, *Work Plan for Additional PCB Delineation*.

Solutia requested, and has been issued, a permit from the Illinois Department of Transportation (IDOT) to conduct soil sampling activities in the Route 3 right-of-way west of the Solutia property boundary. A copy of the IDOT permit is attached.

Access was also requested from The Alton & Southern Railway Company (Alton & Southern) to the property immediately south of Solutia's facility boundary. A copy of the Alton & Southern access agreement is also attached. Soil borings on the IDOT right-of-way and the Alton & Southern property are scheduled to be installed the week of March 30, 2009.

Upon receipt of analysis for soil samples collected on the IDOT right-of-way and the Alton & Southern property, plus the on-site soil borings outlined in Solutia's March 4, 2009 correspondence, Solutia will prepare a report outlining the results of delineation activities. If after receipt of laboratory results it is determined additional off-site delineation is necessary, Solutia will provide U.S. EPA an update detailing the laboratory results and our intent to pursue access to install additional soil borings.

If you have any questions or require additional information, please contact me at 314.674.3312, or at gmrina@solutia.com.

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Attachment

Illinois Department of Transportation
Division of Highways / Region 5 / District 8
1102 Eastport Plaza Drive / Collinsville, Illinois 62234-6198

March 19, 2009

PERMIT No. 8-26872

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

Attention: Mr. William G. Johnson
Sr. Engineer, Remediation

Dear Mr. Johnson:

Attached is one approved copy of the above permit covering the construction and maintenance as described below:

NATURE OF IMPROVEMENT: Conduct soil borings within right of way

ROUTE: FA 4 (IL Route 3)

SECTION: 64R-1

STATION: 163+00± to 168+00±

COUNTY: St. Clair

Please notify Mr. Lance Dawson at (618) 346-3203 at this office at least 72 hours before this work is to be performed. Also, inform us when the work has been completed, so that a final inspection can be made.

Sincerely,

Mary C. Lamie, P.E.
Deputy Director of Highways
Region Five Engineer

Kirk H. Brown, P.E.
Project Support Engineer

FAD:jcp/26872permitletter.doc
Attachments
cc: District Bureau of Operations - Craig Poettker

Illinois Department of Transportation

Utility Per

Public Improvement ☐ Yes ☒ No
IDOT Permit No. 8-26872
Utility Reference No.

I (We) Solutia Inc. (Name of Applicant), 575 Maryville Centre Drive (Mailing Address)

St. Louis (City), MO 63141 (State & Zip), hereinafter termed the Permittee.

request permission and authority to occupy, and to do certain work herein described on, the right-of-way of the State highway

known as FA Route 4, Section 64R-1

from Station 163+00± to Station 168+00± in St. Clair County.

The work is described in detail below and/or on the attached sketch or plans.

Collect surficial (0-3 feet) soil samples in the right-of-way east of IL Rt. 3, west of Solutia's facility at 500 Monsanto Avenue, Sauget. The work is being performed as part of an environmental assessment required by the U.S. EPA. Soil samples will be collected at multiple locations using a hand auger. Soil borings will be properly abandoned immediately after sample collection. It is anticipated no more than 10 samples will be collected. See attached maps for more information regarding proposed sample locations. Appropriate traffic control will be used while the work is being conducted. The permit shall provide Solutia and its representatives, as well as U.S. EPA and its representatives, access to the proposed sample locations.

This permit covers the operation and presence of specified equipment, material or facility on the right-of-way that may be related to the authorized work. A copy of this permit must be present when crews or equipment occupy highway right-of way. Failure to comply may result in the cessation of all construction.

This permit is subject to conditions and restrictions of Part 530 of Title 92 of the Illinois Administrative Code, Accommodation of Utilities on Right-of-Way of the Illinois State Highway System. The removal, relocation or modification of facilities permitted to occupy the right-of-way is governed by Section 9-113 of the Illinois Highway Code, as amended by Public Act 92-0470. The Permittee agrees to comply with the requirements of these laws and with all terms and conditions established by this permit. This permit is subject to revocation by the Department on violation of the terms and conditions governing its use.

William G. Johnson 3/20/09
Signature of Agent for Permittee Date

William G. Johnson
Name of Permittee (Print or Type)

Solutia Inc., 575 Maryville Centre Drive
Mailing Address

St. Louis MO 63141
City State Zip

The work authorized by this permit shall be completed by _____ or within 180 days after the date of approval by the Department, otherwise the permit will be considered null and void.

Public Improvement Projects only: The anticipated letting date is _____

This permit allowing occupancy and work on state right-of-way is approved. The Utility Coordination Council established by the Department in the area covered by this permit is District 8 Utility Coordinating Council.

Mary C Lamie 19 March 2009
Department of Transportation Date

This permit is subject to the conditions and restrictions established in accordance with the Illinois Highway Code and Part 530 of Title 92 of the Illinois Administrative Co including but not limited to the following:

(1) The applicant represents all parties in interest and shall furnish material, do all work, pay all costs and shall in a reasonable length of time restore the damaged portions of the highway to a condition similar or equal to that existing before the commencement of the described work, including any landscape restoration necessary. (See Section 530.250 of Title 92).

(2) The proposed work shall be located and constructed to the satisfaction of the Regional Engineer or his duly authorized representative. No revisions or additions shall be made to the proposed work on the right-of-way without the written permission of the Regional Engineer or his duly authorized representative (See Section 530.200 of Title 92). In certain circumstances the Department may require that the construction plans and/or the as-built documents be sealed by an Illinois Registered Professional Engineer. Typical of such projects would be petroleum or gas pipelines.

(3) The applicant shall at all times conduct the work in such a manner as to minimize hazards to vehicular and pedestrian traffic. All signs, barricades, flaggers, etc., required for traffic control shall be furnished by the applicant. (See Section 530.240 of Title 92).

(4) The applicant must ascertain the presence of Highway Authority Agreements established in accordance with 35 Ill. Admin. Code Section 742.1020 in the path of its proposed installation and take precautions to protect its workers, human health and the environment in those areas. (See Section 530.240 of Title 92). Where contamination is encountered through excavation in the ROW, it should be managed offsite and IDOT's generator number for the appropriate county may be used.

(5) The applicant shall not trim, cut or in any way disturb any trees or shrubbery along the highway without the approval of the Regional Engineer or his duly authorized representative. (See Section 530.600 of Title 92).

(6) The facilities authorized to occupy the right-of-way by this permit are subject to removal, relocation or modification by the permittee at no expense to the State on notice given by the Department in accordance with Section 9-113 of the Illinois Highway Code, as amended. Participation by the permittee in the UTILITY Coordination Council identified on page one of this permit is required as a condition of this permit. Permittee shall cooperate with the Department with the scheduling of any removal, relocation or modification deemed necessary for highway or highway safety purposes, and, if Utility Coordination Council participation is required by this permit, with the activities of the council identified on the first page of this permit. (See Section 9-113 of the Illinois Highway Code.) Use of and compliance with current IDOT Traffic Control Standards will be required.

(7) If the applicant and the District cannot agree either on whether the permit should be issued or on what conditions would be appropriate, the applicant may, within 30 days of the issuance of written notice of the District's position, appeal the District's determination to the Chief of the Department's Central Bureau of Operations. (See Section 530.900 of Title 92).

(8) The permittee agrees to fully comply with the following legal obligations in advance of entering and while upon any Right-of-way within the Illinois State Highway System.

a) Only a permit issued by the Department under this Part will satisfy the "written consent" requirement of Section 9-113 of the Illinois Highway Code (the Code).
b) A permit from the Department grants a license only to undertake certain activities in accordance with this Part on a State right-of-way, and does not create a property right or grant authority to the permittee to impinge on the rights of others who may have an interest in the right-of-way. Such others might include an owner of an underlying fee simple interest if the right-of-way is owned as an easement or dedication of right of way, an owner of an easement, or another permittee.
c) It shall be the responsibility of the permittee to ascertain the presence and location of existing above-ground or underground facilities on the highway right-of-way to be occupied by their proposed facilities. The Department will make its permit records available to a permittee for the purpose of identifying possible facilities. When notified of an excavation or when requested by the Department, a permittee shall locate, physically mark, and indicate the depth of its underground facilities within 48 hours excluding weekends and holidays.
d) The permittee shall avoid conflicts with any existing underground or above-ground facilities on or near the highway right-of-way. Both the Department and J.U.L.I.E. are to be contacted for assistance during the application process.
e) The permittee shall comply with all other applicable laws relating to the placement of utility lines.
f) The issuance of a utility permit by the Department does not excuse the permittee from complying with any existing statutes, local regulations or requirements of other Department (e.g., oversize and overweight vehicles) or the requirements of other State agencies including, but not limited to, the following:

Illinois Commerce Commission, Illinois Department of Agriculture
Illinois Department of Natural Resources, Illinois Department of Mines and Minerals
Illinois Environmental Protection Agency, Illinois Historic Preservation Agency

g) Rights of abutting and underlying property owners are protected by common law and Sections 9-113 and 9-127 of the Code. The permittee will address these rights prior to initiating activities on State right-of-way. The Department will not be a party in any negotiations between the utility and abutting property owners.
h) In no case shall the permit give or be construed to give an entity any easement, leasehold or other property interest of any kind in, upon, under, above or along the State highway right-of-way.
i) Each person responsible for a utility, in place on the effective date of this Part, on a State highway right-of-way shall notify the Department in writing, if that facility does not comply with this Part. The Department shall treat such a notice as a request for a variance under Section 530.130. Until informed that a variance will not be granted, a person responsible for a pre-existing utility will not be in violation of this Part. The failure to provide such notice constitutes a violation of this Part and of the utility accommodation permit (if any) and would justify the imposition of the sanctions set forth in Section 530.810.

Work to be coordinated with Department Representatives:

Mr. Lance Dawson — Phone (618) 346-3203

Illinois Department of Transportation — Phone ( )

1102 Eastport Plaza Drive, Collinsville, IL 62234-6198

Utility Contact Person: Jeff Adams (URS Corporation) — Phone (314) 743-4228

Work to be done by:

Contractor: URS Corporation

Daytime Phone: (314)743-4228 — Emergency Phone: (314)429-0100

[illegible] control operation:

Number of lane closures: 0 — Time of closures: N/A

DISTRICT 8 UTILITY PERMIT SHEET
APPLICABLE TO
PERMIT NO. 8-26872

Attached is a copy of TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND MAINTENANCE, Standard No. 701101-01. This Standard is being attached to aid you in selecting the correct Application of Traffic Control to meet the conditions of your construction and does not relieve you of your responsibility of having the correct Traffic Control Devices if the above Standard does not fit your situation. If you have any questions concerning Traffic Controls, please contact the Utility Permit Technician, Phone No. 618-346-3203.

The applicant will be responsible for determining location of and protecting State-owned facilities including buried facilities and will be responsible for the cost of repair or replacement of any such facilities damaged as a result of the work covered herein.

Clean-up of the State's right-of-way shall immediately follow construction operations as the job progresses; and, shall not be left until all construction is completed. Maintenance of trenches, filling of settlement, cleaning out eroded dirt from highway ditches and drainage structures shall be a continuous operation. Upon completion of the work covered by this permit, final grading, reseeding, resodding, or any other requirements to restore the right-of-way to a condition equivalent to that which existed prior to the commencement of work shall be completed.

Work shall be carried on in such a manner that traffic shall have full and unobstructed use of the pavement since actual construction work does not involve work in the traffic lanes.

The Department is not a member of JULIE and does not locate its own facilities (such as underground conduit and/or cable for traffic signals or highway lighting). The applicant, at his/her own expense, must obtain the services of a qualified electrical contractor to locate such state-owned facilities.

26872permitsheet.doc

Standard 701101 – 01

When the work operation requires that four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a "FLAGGER" sign shall be substituted for the "WORKER" sign. When the work operation is 4.5 m (15 ft) or more off the pavement edge, no signing or cones will be required, unless two or more vehicles cross the 4.5 m (15 ft) clear zone in one hour. [SS pg. 648 / 701.06(e)]

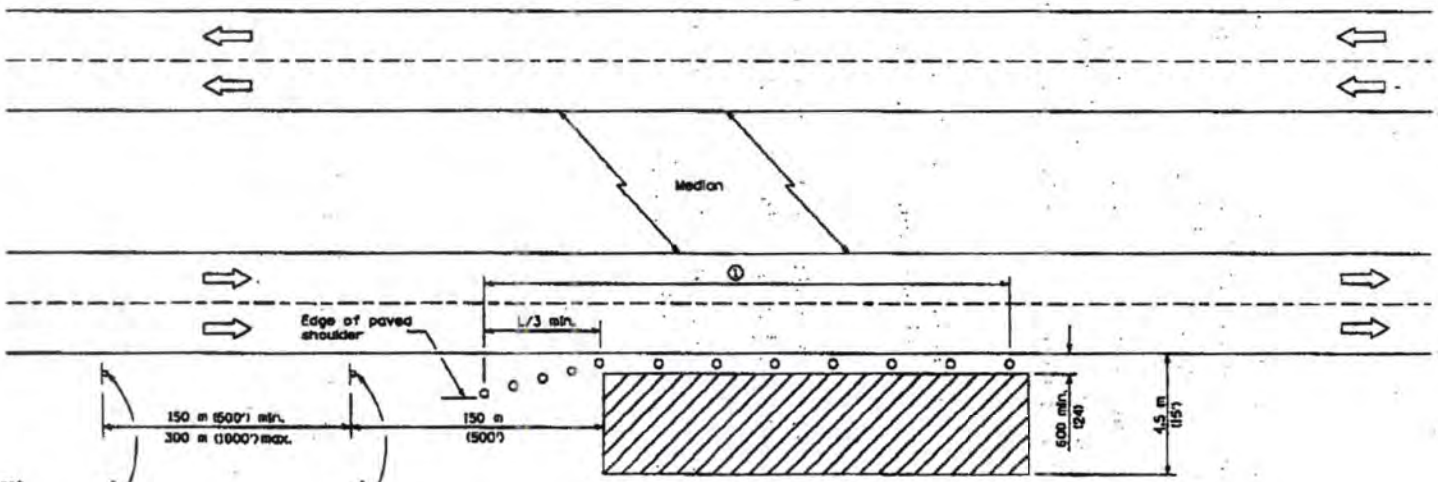
Various Specifications:

1. Temporary traffic control devices shall remain in place only as long as needed and shall be removed as soon as practical when directed by the Engineer. . . . Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 636 / 701.04(a)]

2. Any unattended obstacle or excavation in the work area which constitutes a hazard in the opinion of the Engineer, shall be protected by barricades at 15 m (50 ft) centers, having flashing lights at night. If the hazard exceeds 30 m (100 ft) in length, steady burning lights shall be substituted for flashing lights. When the distance is greater than 75 m (250 ft), barricade spacing shall be increased to 30 m (100 ft). [SS pg. 637 / 701.04(b)(3)]

3. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 30 m (100 ft) in order to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 658 / 702.05(a)]

FOR INFORMATIONAL USE ONLY



For contract construction projects

W20-1(0)-48

W21-1a(0)-48
or

For maintenance and utility projects

W21-4(0)-48

W21-1110(0)-48

TYPICAL APPLICATIONS

Utility operations
Culvert extensions
Side slope changes
Guardrail installation and maintenance
Delineator installation
Landscaping operations
Shoulder repair
Sign installation and maintenance

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 8 m (25') centers for L/3 distance, and at 15 m (50') centers through the remainder of the work area.

SYMBOLS

Work area

Sign

Cone, drum or barricade

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 4.5 m (15') to 600 (24) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS Metric	(English)
70 km/h (40 mph) or less:	$L = \frac{WS^2}{150}$	$L = \frac{WS^2}{60}$
80 km/h (45 mph) or greater:	$L = 0.65(WXS)$	$L = (WXS)$

W = Width of offset in meters (feet).

S = Normal posted speed km/h (mph).

All dimensions are in millimeters (inches) unless otherwise shown.

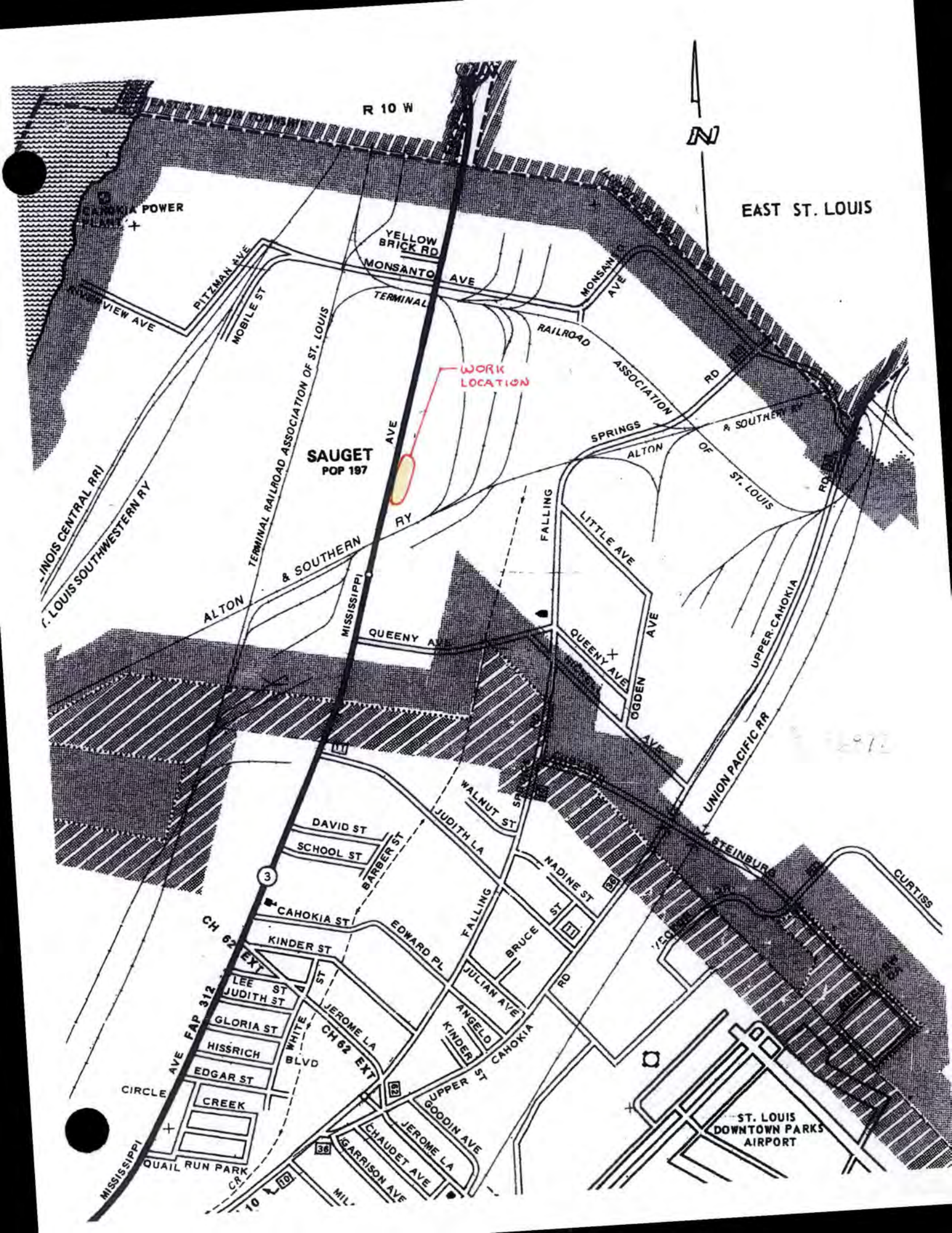
4

State Department of Transportation

DATE	REVISIONS
1-1-05	Revised title, notes, and sign spacing.
1-1-97	Renum. Standard 2314-9. Deleted orange flags.

OFF-RD OPERATIONS, MULTILANE, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE

STANDARD 701101-01



R 10 W
N
EAST ST. LOUIS
CAHOKIA POWER PLANT
YELLOW BRICK RD
MONSANTO AVE
TERMINAL
RAILROAD
ASSOCIATION
OF
ST. LOUIS
RD
MONSANTO AVE
PITZMAN AVE
MOBILE ST
RIVERVIEW AVE
TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS
WORK LOCATION
SAUGET
POP 197
AVE
SPRINGS
ALTON
& SOUTHERN
RY
FALLING
LITTLE AVE
ALTON
& SOUTHERN
RY
MISSISSIPPI
QUEENY AVE
QUEENY AVE
OGDEN
AVE
UPPER CAHOKIA
UNION PACIFIC RR
STEINBURG
CURTISS
WALNUT ST
JUDITH LA
DAVID ST
SCHOOL ST
BARBER ST
NADINE ST
FALLING
BRUCE
ST
CAHOKIA ST
EDWARD PL
KINDER ST
CH 62 EXT
LEE ST
JUDITH ST
GLORIA ST
HISSRICH
EDGAR ST
CREEK
CIRCLE
FAP 312
AVE
WHITE
BLVD
JEROME LA
CH 62 EXT
JULIAN AVE
ANGELO
KINDER
CAHOKIA
RD
UPPER
ST
GOODIN AVE
JEROME LA
CHAUDET AVE
GARRISON AVE
QUAIL RUN PARK
MISSISSIPPI
ST. LOUIS DOWNTOWN PARKS AIRPORT

File # 480-0

CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of this 27th day of March, 2009, by and between The Alton & Southern Railway Company (hereinafter referred to as the "Railroad"); and URS Corporation, 1001 Highland Plaza Drive West, Suite 300, St. Louis, Missouri, 63110, a Delaware Corporation (hereinafter referred to as the "Contractor").

RECITALS:

The Contractor has been hired by Solutia Inc., for the purpose of soil borings and soil sample collection (hereinafter referred to as "work") along Alton & Southern railroad tracks south of Solutia's WG Krummrich plant .

Contractor has requested the Railroad to permit it to perform the work and Railroad is agreeable thereto, subject to the following terms and conditions.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between the Railroad and Contractor, as follows:

ARTICLE 1. DEFINITION OF CONTRACTOR

For purposes of this agreement, all references in this agreement to the Contractor shall include the Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority, including representatives from the United States Environmental Protection Agency (USEPA).

ARTICLE 2. RIGHT GRANTED: PURPOSE

The Railroad hereby grants to the Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing the work described in the Recitals above. The right herein granted to Contractor is limited to those portions of the Railroad's property specifically described herein.

ARTICLE 3. TERMS AND CONDITIONS CONTAINED IN EXHIBITS B AND B-1

The terms and conditions contained in Exhibits B and B-1, hereto attached, are hereby made a part of this agreement.

ARTICLE 4. TERM: TERMINATION

a). The grant of right herein made to Contractor shall commence on ____April 1, 2009__, and continue until ____April 1___, 2010, unless sooner terminated as herein provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad property.

b). This agreement may be terminated by either party on ten (10) days written notice to the other party.

ARTICLE 5. CERTIFICATE OF INSURANCE

a). Before commencing any work, the Contractor will provide the Railroad with a Certificate issued by its insurance carrier providing the insurance coverage acceptable to Railroad which contains he following type of endorsement:

> The Alton & Southern Railway Company, is named as additional insured with respect to all liabilities arising out of Insured's, as Contractor, performance of any work on the property of the Railroad.

b). Contractor warrants that this agreement has been thoroughly reviewed by its insurance agent(s)/broker(s) and that said agent(s)/broker(s) has been instructed to procure insurance coverage and an endorsement as required herein.

c). All insurance correspondence shall be directed to:

General Manager
The Alton & Southern Railway Company
1000 South 22nd Street
East St. Louis, IL. 62207

ARTICLE 6. CHOICE OF FORUM

Litigation arising out of or connected with this agreement may be instituted and maintained in the courts of the state of Illinois (State for litigation purposes) only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 7. RELEASE

In consideration of the permit herein granted by the Railroad, as aforesaid, we do hereby assume all risks of any and all personal injuries and loss of or damage to any property while pursuant to said permit we are on or about the premises of our used by the Railroad, and we forever, acquit, release and discharge the Railroad, all companies whose tracks and premises the Railroad may be using and any and all other carriers which may use the tracks and premises of or used by the Railroad, its successors and assigns and its and their officers and employees, from any and all liability of whatsoever character for any and all personal injuries and loss of or damage to property that may be sustained by any agents and/or employees while on or about said tracks or other premises pursuant to said permit, no matter how said injuries or damage any arise and whether said injuries result in death or otherwise; and we agree to indemnify the Railroad such other carriers for and such injury, loss or damage, regardless of negligence of the Railroad or such other carriers.

IN WITNESS WHEREOF, the parties hereto have executed this agreement in duplicate as the date first herein written.

THE ALTON & SOUTHERN RAILWAY COMPANY

By M A McCarthy

Mr. Michael A. McCarthy, General Manager

URS CORPORATION

By 3/27/09

Title: VICE PRESIDENT

WITNESS:

3/27/09

V.P.

EXHIBIT B TO CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1 NOTICE OF COMMENCEMENT OF WORK – FLAGGING.

The contractor agrees to notify the Railroad Representative at least 48 hours in advance of Contractor commencing its work and at least 24 hours in advance of proposed performance of any work by the Contractor in which any person or equipment will be within 25 feet of any track or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. Upon receipt of such notice, the Railroad Representative will determine and inform the Contractor whether a flagman need be present and whether the Contractor need implement any special protective or safety measures. If any flagman or other special protective or safety measures are performed by the Railroad, such services will be provided at Contractor's expense with the understanding that if the Railroad provides any flagging or other services the Contractor shall not be relieved of any of its responsibilities or liabilities set forth herein.

Section 2 NO INTERFERENCE WITH RAILROAD'S OPERATION.

No work performed by Contractor shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railroad its lessees, licensees or others, unless specifically permitted under this agreement, or specifically authorized in advance by the Railroad Representative. Nothing shall be done or suffered to be done by the Contractor at any time that would in any manner impair the safety thereof. When not in use, Contractor's machinery and materials shall be kept at least 50 feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's track except at existing open public crossings.

Section 3 MECHANIC'S LIENS.

The Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. The Contractor shall not create, permit or suffer any mechanic's or material men's liens of any kind or nature to be created or enforced against any property of the Railroad for any such work performed. The Contractor shall indemnify and hold harmless the Railroad from and against any and all liens, claims demands costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed or material furnished.

Section 4 PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a). Fiber optic cable systems may be buried on the Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall determine if fiber optic cable is buried anywhere on the Railroad's premises to be used by the Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Contractor's expense, and will commence no work on the right of way until all such protection or relocation has been accomplished.

b). In addition to other indemnity provision in this Agreement, the Contractor shall indemnify and hold the Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of the Contractor, its contractor, agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Contractor shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 5 COMMPLIANCE WITH LAWS.

In the prosecution of the work covered by this agreement, the Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work. The Contractor shall use only such methods as are consistent with safety, both as concerns the Contractor, the Contractor's agents and employees, the officers, agents, employees and property of the Railroad and the public in general. The Contractor (without limiting the generality of the foregoing) shall comply with all applicable state and federal occupational safety and health acts and regulations. All Federal Railroad Administration regulations shall be followed when work is performed on the Railroad's property. If any failure by the Contractor to comply with any such laws, regulations, and enactments, shall result in any fine, penalty, cost or charge being assessed, imposed or charged against the Railroad, the Contractor shall reimburse and indemnify the Railroad for any such fine, penalty, cost or charge, including without limitation attorneys' fees, curt costs and expenses. The Contractor further agrees in the event of any such action, upon notice thereof being provided by the Railroad, to defend such action free of cost, charge, or expense to the Railroad.

Section 6 SAFETY INSTRUCTIONS.

Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work pursuant to this agreement. As reinforcement and in furtherance of overall safety measures to be observed by the Contractor (and not by way of limitation), the following special safety rules shall be followed:

a) The Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Contractor shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any pers0n that may be injured on the job site. The Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Contractor shall have a non-delegable duty to control its employees, while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that my inhibit the safe performance of work by the employee.

b) The employees of the Contractor shall be suitable dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective work boots and at least the following protective equipment:

1) Protective head gear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with Contractor's or subcontractor's company logo or name.

2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such welding, grinding, burning, etc.; and

3) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site.

c) All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of Contractor's or any of its subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Contractor, at the request of the Railroad Representative, shall remove such equipment from the Railroad's right-of-way.

Section 7 INDEMNITY.

a) As used in this Section, "Railroad" includes other railroad companies using the Railroad's property at or near the location of the Contractor's installation and their officers, agents, and employees; "Loss" includes loss,

damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (a) injury to or death of persona whomsoever (including the Railroad's officers, agents, and employees, the Contractor's officers, agents, and employees, as well as any other person); and/or (b) damage to or loss or destruction of property whatsoever (including Contractor's property, damage to the roadbed, tracks, equipment, or other property of the railroad, or property in its care or custody).

b) As a major inducement and in consideration of the license and permission herein granted, the Contractor agrees to indemnify and hold harmless the Railroad from any Loss which is due to or arises from any cause and is associated in whole or in part with the work performed under this agreement, a breach of the agreement or the failure to observe the health and safety provisions herein, or any activity, omission or negligence arising out of performance or nonperformance of this agreement. However, the Contractor shall not indemnify the Railroad when the Loss is caused by the sole negligence of the Railroad.

c) The Contractor shall maintain whatever insurance coverage is necessary to adequately underwrite its general and contractual liability under the terms of this Agreement.

Section 8 RESTORATION OF PROPERTY.

In the event the Railroad authorizes the Contractor to take down any fence of the Railroad or in any manner move or disturb any of the other property of the Railroad in connection with the work to be performed by Contractor, then in that event the Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same where in before such fence was taken down or such other property was moved or disturbed.

Section 9 WAIVER OF BREACH.

The waiver by the Railroad of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Contractor shall in no way impair the right of the Railroad to avail itself of any remedy for any subsequent breach thereof.

Section 10 ASSIGNMENT – SUBCONTRACTING.

The Contractor shall not assign, sublet or subcontract this agreement, or any interest herein, without the written consent of the Railroad and any attempt to so assign, sublet or subcontract without the written consent of the Railroad shall be void. If the Railroad gives the Contractor permission to subcontract all or any portion of the work herein described, the Contractor is and shall remain responsible for all work of subcontractors and all work of subcontractors shall be governed by the terms of this agreement.

EXHIBIT B-1

Right of Entry Agreement
Contract Insurance Requirements
Third Party Contractors

Contractor shall, at its sol cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

a) General Liability insurance providing bodily injury including death, personal injury and property damage coverage with a combined single limit of at least $2,000,000 each occurrence or claim and an aggregate limit of at least $4,000,000. This insurance shall contain broad form contractual liability with a separate general aggregate for the project (ISO Form CG 25 03 or equivalent). Exclusions for railroads (except where the Job Site is more than fifty feet (50') from any railroad tracks, bridges, trestles, roadbeds, terminals, underpasses or crossing), and explosion, collapse and underground hazard shall be removed. Coverage purchased on a claims made form shall provide for at least a two (2) year extended reporting or discovery period if (a) the coverage changes from a claims made form to an occurrence from, (b) there is a lapse/cancellation of coverage, or (c) the succeeding claims made policy retroactive date is different for the expiring policy.

A single Railroad Protective Liability Insurance policy, naming the Railroad, shall be carried in limits of $2,000,000 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of $6,000,000 over the life of the policy as set forth in Federal Aid Policy Guide, Chapter 1, Subchapter G, Part 646, Subpart A (23 CFR 646A).

b) Automobile Liability insurance providing bodily injury, property damage and uninsured vehicles coverage with a combined single limit of at least $2,000,000 each occurrence or claim. This insurance shall cover all motor vehicles including hired and non-owned, and mobile equipment if excluded from coverage under the general public liability insurance.

c) Workers' Compensation insurance covering contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement, and Employers' Liability. If such insurance will not cover the liability of Contractor in states that require participation in state workers' compensation fund. Contractor shall comply with the laws of such states. If Contractor is self-insured, evidence of state approval must be provided.

Contractor and their insurers shall endorse the required insurance policy(ies) to waive their right of subrogation against Railroad. Contractor's insurance shall be primary with respect to any insurance carried by Railroad. The policies required under (a) and (b) above shall provide severability of interests and shall name Railroad as an additional insured.

Prior to commencing the Work, Contractor shall furnish to Railroad certificate(s) of insurance evidencing the required coverage and endorsements and upon request, a certified duplicate original of any required policy. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railroad in writing of any material alteration including any change in the retroactive date in any "claims-made" policies or substantial reduction of aggregate limits, if such limits apply, or any cancellation at least thirty (30) days prior thereto.

The insurance policy(ies) shall be written by a reputable insurance company(ies) acceptable to Railroad or with a current Best's Insurance Guide Rating of B and Class VII or better, and authorized to do business in the state(s) in which the Job Site is located.

Contractor WARRANTS that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by this Agreement.

If Contractor fails to procure and maintain insurance as required, Railroad may elect to do so at the cost of Contractor.

The fact that insurance is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

Solutia - 380

SOLUTIA

Solutions for a better life.

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

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel 314-674-1000

May 18, 2009

Mr. James K. Moore
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, IL 62794

VIA FEDEX

Re: Recorded Environmental Land Use Control (ELUC)
Solutia Inc., W. G. Krummrich Plant, Sauget, IL
US EPA ID Number ILD000802702
Illinois EPA Site Number 1631210006
Log No. C-777-M-4

Dear Mr. Moore:

Pursuant to Condition 4 in the Illinois Environmental Protection Agency's enclosed letter (originally received from you via e-mail on April 30), also enclosed is a certified copy of the Environmental Land Use Control (ELUC) which Solutia Inc. ("Solutia") recorded in the chain of title for the subject property at the Office of Recorder of Deeds for St. Clair County on April 30.

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

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosures

cc: Distribution List (w/ enclosures)

DISTRIBUTION LIST

Recorded Environmental Land Use Control (ELUC)
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Illinois EPA

Jim Moore	1021 North Grand Avenue East, Springfield, IL 62794

US EPA

Ken Bardo	77 West Jackson Boulevard, Chicago, IL 60604

Solutia

Craig Branchfield	500 Monsanto Avenue, Sauget, IL 62206
Cathy Bumb	575 Maryville Centre Drive, St. Louis, MO 63141
Tom Gartzke	500 Monsanto Avenue, Sauget, IL 62206

APR. 30. 2009 1606

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

217/524-3300

Solutia, Inc.
Attn: Mr. Gerald Rinaldi
575 Maryville Centre Drive
St. Louis, Missouri 63141

Re: 1631210006 –St. Clair County
Solutia
ILD000802702
Log No. C-777-M-4
Received: April 9, 2009
RCRA Closure

Dear Mr. Rinaldi:

This is in response to your April 8, 2009 submittal regarding remedial activities at the Solutia facility located at 500 Monsanto Avenue, Sauget, Illinois. Your submittal contained a draft Environmental Land Use Control which is to be established to restrict certain activities at this facility (such restrictions are necessary for proper remediation of the facility).

The Solutia facility is currently coordinating RCRA interim status closure efforts of six former hazardous waste management units with corrective measures being carried out at the facility pursuant to an Administrative Order of Consent (AOC) issued by the United States Environmental Protection Agency under the Resource Conservation and Recovery Act. A plan to complete closure of the six former hazardous waste management units at the facility was approved by Illinois EPA on May 21, 1997 (Log No. C-777) and was last modified on January 23, 2003.

Your submittal was reviewed as a request to modify the approved RCRA interim closure plan for the six former hazardous waste management units identified above and is hereby approved subject to the following conditions and modifications:

1. The proposed Environmental Land Use Control (ELUC) for the Solutia facility located at 500 Monsanto Avenue in Sauget, Illinois in St. Clair County is hereby approved subject to the following conditions and modifications.

a. The subject facility is comprised of several "lots", each of which have one or more Parcel Index Numbers (PINs). A listing of these lots and their associated PINs follows (it must be noted that a drawing showing the layout of these various lots is attached):

Lot Name	Lot Size	PIN(s) of Lot
Lot A	33.05 acres	01-25.0-112-002 01-25.0-112-006 01-25.0-112-007 01-25.0-115-001
Lots B and C	95.81 acres	01-26.0-201-003 01-26.0-201-004
Lot D	1.84 acres	01-26.0-202-013
Lot F	15.58 acres	01-26.0-103-002
Lot G	27.17 acres	01-27.0-401-004 01-34.0-100-009 01-34.0-100-008
Lot H (2nd Add.)	3.54 acres	01-23.0-300-002

b. The final ELUC filed with the Office of the Recorder or Registrar of Titles for St. Clair County must include a dated and notarized signature of the property owner.

2. The ELUC approved herein places the following restrictions on the subject property:

a. The Property shall be restricted for use for industrial purposes only. Industrial uses permitted include manufacturing, associated office space and light industrial, but specifically excludes residential housing and similar uses.

b. Groundwater underlying the Property is restricted so that it shall not be used or otherwise consumed for potable, industrial, agricultural or other supply purposes. Such restriction shall not limit or otherwise inhibit or prevent the monitoring, sampling, investigation or remediation of groundwater underlying the Property.

c. Excavation and construction work disturbing the ground surface/groundwater on the Property is restricted and may only be performed pursuant to a permit

program administered by the then current property owner which requires, among other things: (i) a site safety plan to be developed and implemented that meets the requirements of 29 CFR and restricts exposure to soil and groundwater of workers and other persons any time that excavation/construction work takes place at the Property; and (ii) all soil and groundwater removed during the excavation/construction work be managed in accordance with applicable Illinois Environmental Protection Act and 35 Ill. Admin. Code, Subtitle G: Waste Disposal requirements.

d. Operation, maintenance, and/or monitoring of ongoing or completed remedies shall be performed in accordance with work plans, Construction Completion Reports, and similar documents submitted to and approved by USEPA pursuant to the AOC. Specific requirements are as follows (the location of these areas or monitoring wells are shown in the attached drawing entitled "Map of Physical Features Subject to Environmental Land Use Control"):

(1) Route 3 Drum Site This site is to be inspected three times per year, in April, July, and October, and corrective action taken as necessary to maintain cap integrity. In addition, groundwater monitoring wells GM-31A and GM-58A (Exhibits B-8, B-9 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for semivolatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

(2) Lead Remediation Areas: These areas are to be inspected one time per year, in November, and corrective action taken as necessary to maintain integrity of the asphalt or gravel covers.

(3) Long-Term Groundwater Monitoring Program The following monitoring wells are to be maintained and samples are to be collected quarterly and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and monitored natural attenuation (MNA) parameters: BSA (Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D and BSA,MW-05D, and CPA(Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.

(4). PCB Groundwater Quality Assessment Program: The following monitoring wells are to be maintained and samples are to be collected quarterly and analyzed for polychlorinated biphenyls (PCBs): PMA(PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-

MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D.

e. If any new building is to be constructed on the Property, a review first shall be conducted to determine if soil vapor data evidences a concern with vapor intrusion in that area. If vapor intrusion is a concern, a proper vapor barrier shall be provided for the new building. This effort must be carried out by a licensed professional engineer and meet the requirements of applicable regulations in 35 Ill. Adm. Code 742.

f. The restrictions of only Items a, b, c, and e above must be met within a portion of the facility referred to as Lot G.

3. In accordance with the AOC, by May 1, 2009, the ELUC approved herein must be fully executed, notarized and recorded in the chain of title for the subject property in the Office of the Recorder or Registrar of Titles for St. Clair County, along with this letter. The approved ELUC will not become effective until officially recorded in the chain of custody for the subject property.

4. Within 30 days after filing the approved ELUC in accordance with Condition 3 above, a certified true copy of the filed ELUC, along with certification for the Office of the Recorder or Registrar of Titles for St. Clair County that the ELUC was properly filed, must be submitted to Illinois EPA.

5. Failure to comply with the limitations or requirements of an ELUC may result in voidance of an Agency no further remediation determination in accordance with the program under which the determination was made. The failure to comply with the limitations or requirements of an ELUC may also be grounds for an enforcement action pursuant to Title VIII of the Illinois Environmental Protection Act.

6. The limitations or requirements of the ELUC apply in perpetuity or until:

   a. The Illinois EPA issues a new no further remediation determination approving modification or removal of the limitation/requirement; and

   b. A release or modification of the land use limitation is filed on the chain of title for the property that is the subject of the ELUC.

7. At no time shall this site be used in a manner inconsistent with the land use limitations established in the approved ELUC, unless: (1) attainment of objectives appropriate for the new land use is achieved, and (2) a new no further action determination is obtained

from Illinois EPA and subsequently recorded in accordance with 35 Ill. Adm. Code 742.

a. Requests to release or modify an ELUC must be formally requested in writing from Illinois EPA as a: (1) request to amend the certification of closure; or (2) a permit modification request. Sufficient information must be provided in these requests to demonstrate that the requested change meets all the requirements of 35 IAC 742.

b. Any final approval by Illinois EPA of a request to release or modify an ELUC must be filed with the chain of title for the subject facility.

This action shall constitute Illinois EPA's final action on the subject submittal. Within 35 days after the date of mailing of Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of Illinois EPA, however, the 35-day period for petitioning for a hearing may be extended for a period of time not to exceed 90 days by written notice provided to the Board from the applicant and the Illinois EPA within the 35-day initial appeal period.

Work required by this letter, your submittal(s) or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Sincerely,

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:mls/092733s.doc

Attachments: Legal Description of Property
Map of Physical Features Subject to ELUC

Pick-up

APR.30.2009 1602 A02158120

STATE OF ILLINOIS
ST. CLAIR COUNTY
BELLEVILLE IL 62220

09 APR 30 PM 2:31

Michael T Costello

RECORDER

PREPARED BY:
Name: Cathleen S. Bumb
Address: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

RETURN TO:
Name: Cathleen S. Bumb
Address: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC") is made this 23rd day of April, 2009, by Solutia Inc., (the "Property Owner") of the real property located at the common address 500 Monsanto Avenue, Sauget, Illinois 62206 (the "Property").

102

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated soil or groundwater, or both, that may be present on the property as a result of historical chemical operations including the storage, manufacture, and disposal of chemicals and related activities. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

WHEREAS, Solutia Inc. intends to perform certain corrective measures on the Property pursuant to an Administrative Order on Consent (AOC) issued by the United States Environmental Protection Agency ("USEPA") on May 3, 2000, under the Resource Conservation and Recovery Act (EPA Docket No. R8H-5-00-003), which involves requesting risk-based, site-specific soil and groundwater remediation objectives from USEPA and/or IEPA under 35 Ill. Adm. Code 742 for the site identified by the IEPA Bureau of Land Identification Number 1631210006 (and USEPA Identification Number ILD 000 802 702) by using an ELUC. This AOC requires Solutia Inc. to complete RCRA closure of several former hazardous waste management units for which IEPA was overseeing remedial efforts.

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein, and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of St. Clair, State of Illinois and further described in Exhibit A, attached hereto and

86

incorporated herein by reference (the "Property"), which includes the legal descriptions and surveys of the Property and the individual lots making up the Property (Lots A, B, C, D, F, G and H – 2nd Addition), along with a Key Map showing location of all Lots.

Attached as Exhibit B are site maps that show the legal boundary of the property, any physical features to which the ELUC applies, the horizontal and vertical extent of contaminants of concern over the applicable remediation objectives for soil or groundwater or both, and the nature, location of the source, and direction of movement of contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants that it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in St. Clair County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that:

1. The Property shall be restricted for use for industrial purposes only. Industrial uses permitted include manufacturing, associated office space and light industrial, but specifically excludes residential housing and similar uses.

2. Groundwater underlying the Property is restricted so that it shall not be used or otherwise consumed for potable, industrial, agricultural or other supply purposes. Such restriction shall not limit or otherwise inhibit or prevent the monitoring, sampling, investigation or remediation of groundwater underlying the Property.

3. Excavation and construction work disturbing the ground surface/groundwater on the Property is restricted and may only be performed pursuant to a permit program administered by the then current property owner which requires, among other things: i) a site safety plan to be developed and implemented that meets the requirements of 29 CFR and restricts exposure to soil and groundwater of workers and other persons any time that excavation/construction work takes place at the Property; and ii) all soil and groundwater removed during the excavation/ construction work be managed in accordance with applicable Illinois Environmental Protection Act and 35 Ill. Admin. Code, Subtitle G: Waste Disposal requirements.

4. Operation, maintenance, and/or monitoring of ongoing or completed remedies shall be performed in accordance with work plans, Construction Completion Reports, and similar documents submitted to and approved by USEPA pursuant to the AOC. Specific requirements are as follows:

- Route 3 Drum Site: This site (Exhibit B-9) is to be inspected three times per year, in April, July, and October, and corrective action taken as necessary to maintain cap integrity. In addition, groundwater monitoring wells GM-31A and GM-58A (Exhibits B-8, B-9, and B-11) are to be maintained and samples are to be

collected quarterly and analyzed for semivolatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

- Lead Remediation Areas: These areas (Exhibit B-10) are to be inspected one time per year, in November, and corrective action taken as necessary to maintain integrity of the asphalt or gravel covers.

- Long-Term Groundwater Monitoring Program: The following monitoring wells (Exhibits B-8 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and monitored natural attenuation (MNA) parameters: BSA(Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D, and BSA-MW-05D, and CPA(Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.

- PCB Groundwater Quality Assessment Program: The following monitoring wells (Exhibits B-8 and B-11) are to be maintained and samples are to be collected quarterly and analyzed for polychlorinated biphenyls (PCBs): PMA(PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D.

5. If any new building is to be constructed on the Property, a review first shall be conducted to determine if soil vapor data evidences a concern with vapor intrusion in that area. If vapor intrusion is a concern, a proper vapor barrier shall be provided for the new building. This effort must be carried out by a licensed professional engineer and meet the requirements of applicable regulations in 35 Ill. Adm. Code 742.

6. The restrictions of only Items 1, 2, 3, and 5 above must be met within a portion of the facility referred to as Lot G.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control; until the IEPA, upon written request, issues to the site that received the no further remediation determination a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); the new no further remediation determination is filed on the chain of title of the Property subject to the no further remediation determination; and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. Information regarding the remediation performed on the Property may be obtained from: i) the IEPA through a request under the Freedom of Information Act (5 ILCS 140) and rules promulgated thereunder by providing the IEPA with the IEPA Bureau of Land

Identification Number 1631210006; and 2) from the USEPA by providing the USEPA Identification Number ILD 000 802 702.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signature:

Solutia Inc.

By: Craig Branchfield
Its: Plant Manager
Date: 4/23/09

STATE OF MISSOURI)
) SS:
COUNTY OF ST. LOUIS)

I, Cory J. Isom the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that Craig Branchfield, personally known to me to be Solutia Inc.'s Plant Manager of the W.G. Krummrich Plant Property located at 500 Monsanto Avenue, Sauget, Illinois, and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that in said capacity he signed and delivered the said instrument as his free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this 23rd day of April, 2009

Notary Public

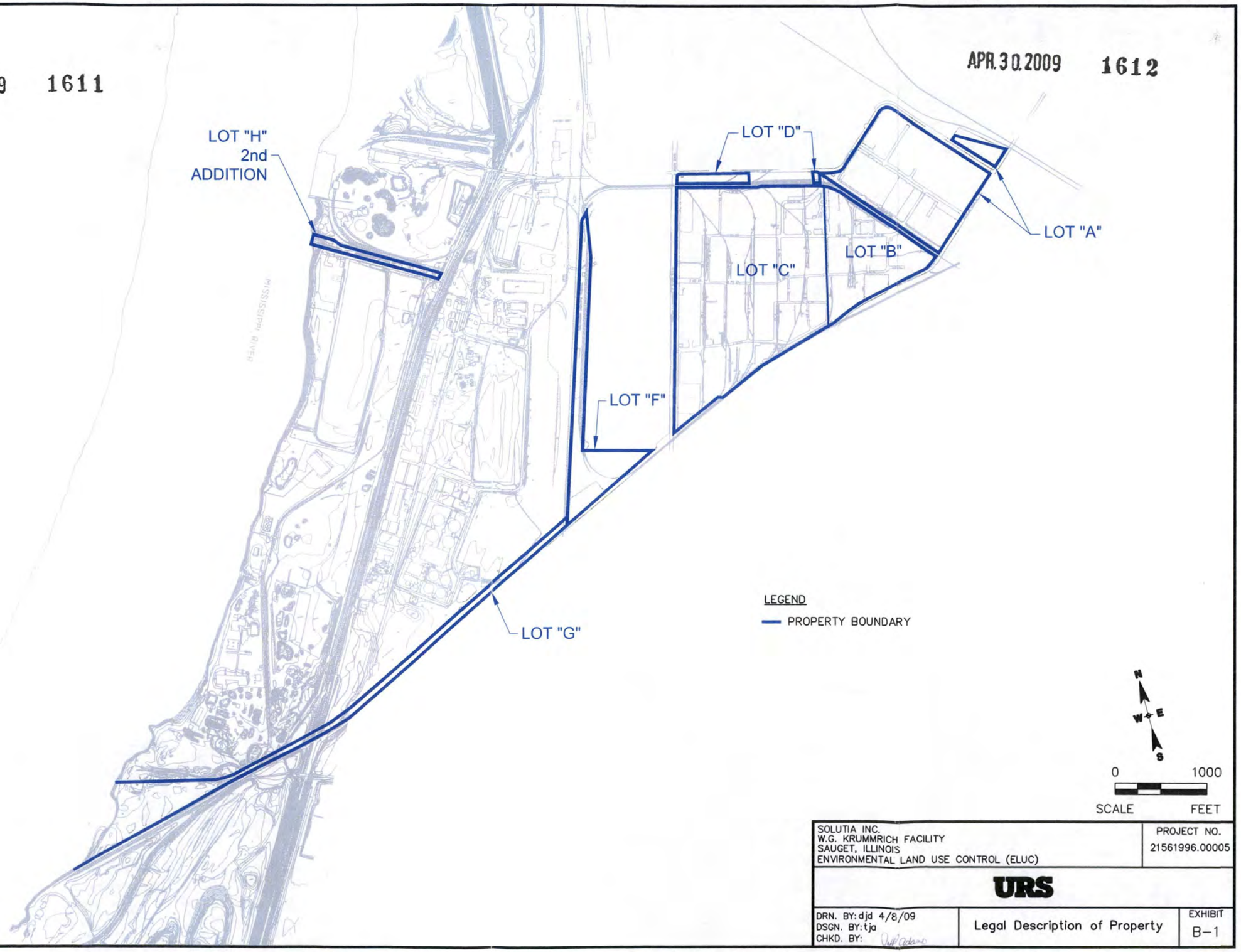
NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

CORY J. ISOM
My Commission Expires
November 1, 2011
St. Charles County
Commission #07342264

Notary Public

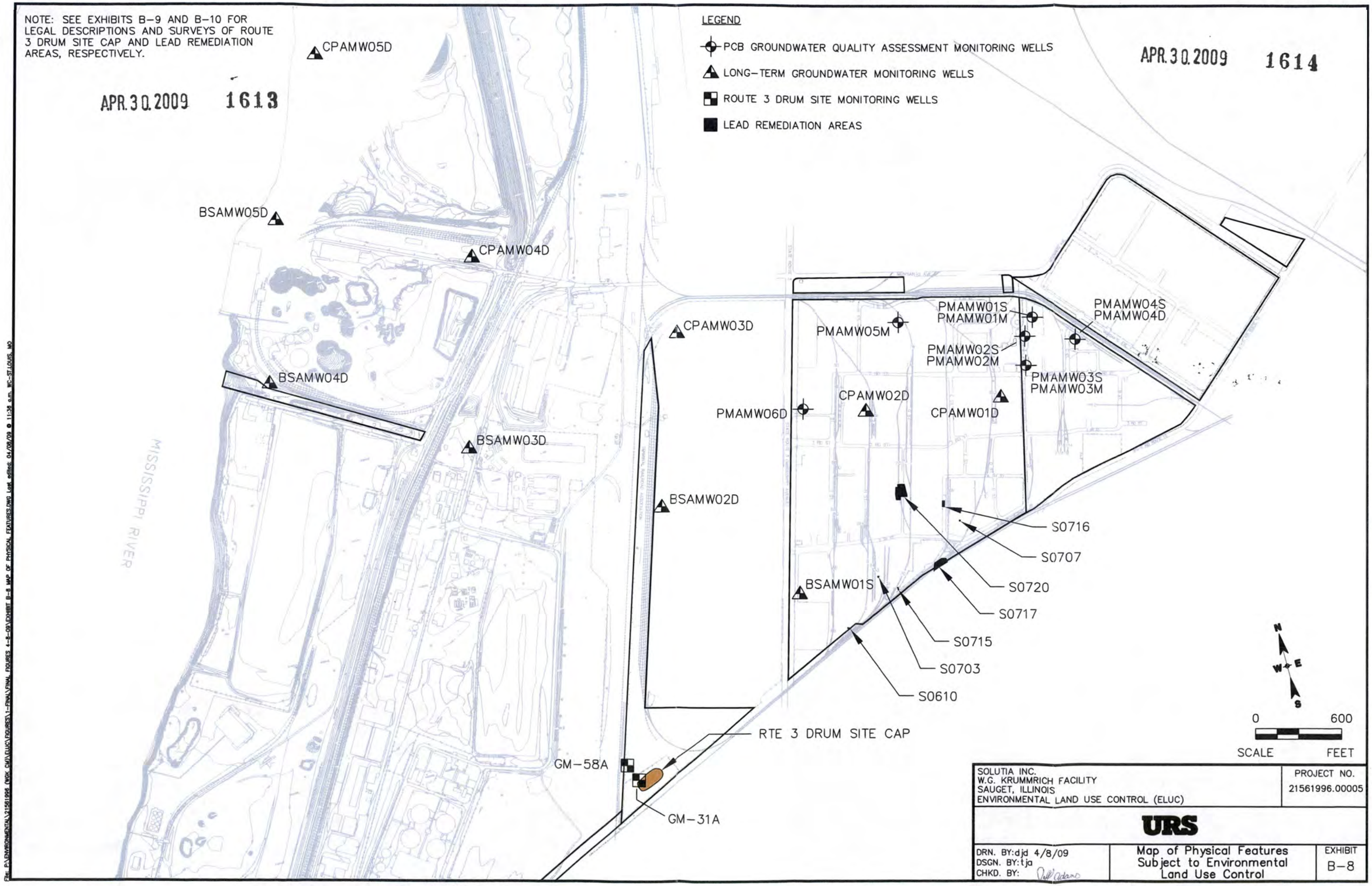
APR. 30. 2009 1611

APR. 30. 2009 1612



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)	PROJECT NO. 21561996.00005
URS	
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY:	Legal Description of Property — EXHIBIT B-1

File: P:\ENVIRONMENTAL\21561996 (WGK CAP)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-1 WGK LEGAL DESCRIPTION.DWG Last edited: 04/08/09 @ 11:06 a.m. WC-ST.LOUIS, MO


NOTE: SEE EXHIBITS B-9 AND B-10 FOR LEGAL DESCRIPTIONS AND SURVEYS OF ROUTE 3 DRUM SITE CAP AND LEAD REMEDIATION AREAS, RESPECTIVELY.
APR. 30. 2009 1613
APR. 30. 2009 1614
LEGEND
PCB GROUNDWATER QUALITY ASSESSMENT MONITORING WELLS
LONG-TERM GROUNDWATER MONITORING WELLS
ROUTE 3 DRUM SITE MONITORING WELLS
LEAD REMEDIATION AREAS
CPAMW05D
BSAMW05D
CPAMW04D
BSAMW04D
BSAMW03D
CPAMW03D
BSAMW02D
BSAMW01S
PMAMW05M
PMAMW01S
PMAMW01M
PMAMW04S
PMAMW04D
PMAMW02S
PMAMW02M
PMAMW03S
PMAMW03M
PMAMW06D
CPAMW02D
CPAMW01D
S0716
S0707
S0720
S0717
S0715
S0703
S0610
RTE 3 DRUM SITE CAP
GM-58A
GM-31A
MISSISSIPPI RIVER
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SCALE
FEET
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)
PROJECT NO.
21561996.00005
URS
DRN. BY:djd 4/8/09
DSGN. BY:tja
CHKD. BY:
Map of Physical Features Subject to Environmental Land Use Control
EXHIBIT
B-8

LIST OF EXHIBITS

APR. 30. 2009 1615

Exhibit A:

A-1 Krummrich Property Boundaries Key Map

A-2 Legal Description of Lot A

A-3 Legal Description of Lots B and C

A-4 Survey Drawing of Lots A, B, and C

A-5 Legal Description of Lot D

A-6 Legal Description of Lot F

A-7 Legal Description of Lot G

A-8 Legal Description of Lot H – 2nd Addition

Exhibit B:

B-1 Legal Description of Property

B-2 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (0'-5' bgs)

B-3 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (5'-10' bgs)

B-4 Contaminants in Soil Exceeding Tier 1 Remediation Objectives (10'-15' bgs)

B-5 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Shallow Hydrogeologic Unit)

B-6 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Middle Hydrogeologic Unit)

B-7 Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Deep Hydrogeologic Unit)

B-8 Map of Physical Features Subject to Environmental Land Use Control

B-9 Legal Description and Survey of Route 3 Drum Site Cap

B-10 Legal Descriptions and Surveys of Lead Remediation Areas

B-11 Groundwater Monitoring Wells to Be Maintained

Exhibit A

The subject Property is located in the City of Sauget, St. Clair County, State of Illinois, commonly known as the W.G. Krummrich Plant, 500 Monsanto Avenue, Sauget, Illinois. The Property is comprised of seven "lots" (Lots A, B, C, D, F, G and H – 2nd Addition) being a total of 176.99 acres. This exhibit contains the following information:

Exhibit A-1	Krummrich Property Boundaries Key Map (shows relative location of each of the lots identified above)
Exhibit A-2	Legal Description of Lot A
Exhibit A-3	Legal Description of Lots B and C
Exhibit A-4	Survey Drawing of Lots A, B, and C
Exhibit A-5	Legal Description of Lot D
Exhibit A-6	Legal Description of Lot F
Exhibit A-7	Legal Description of Lot G
Exhibit A-8	Legal Description of Lot H – 2nd Addition

An overall summary follows of the various lots, lot size, legal description of each lot, and Parcel Identification Number(s) associated with each lot.

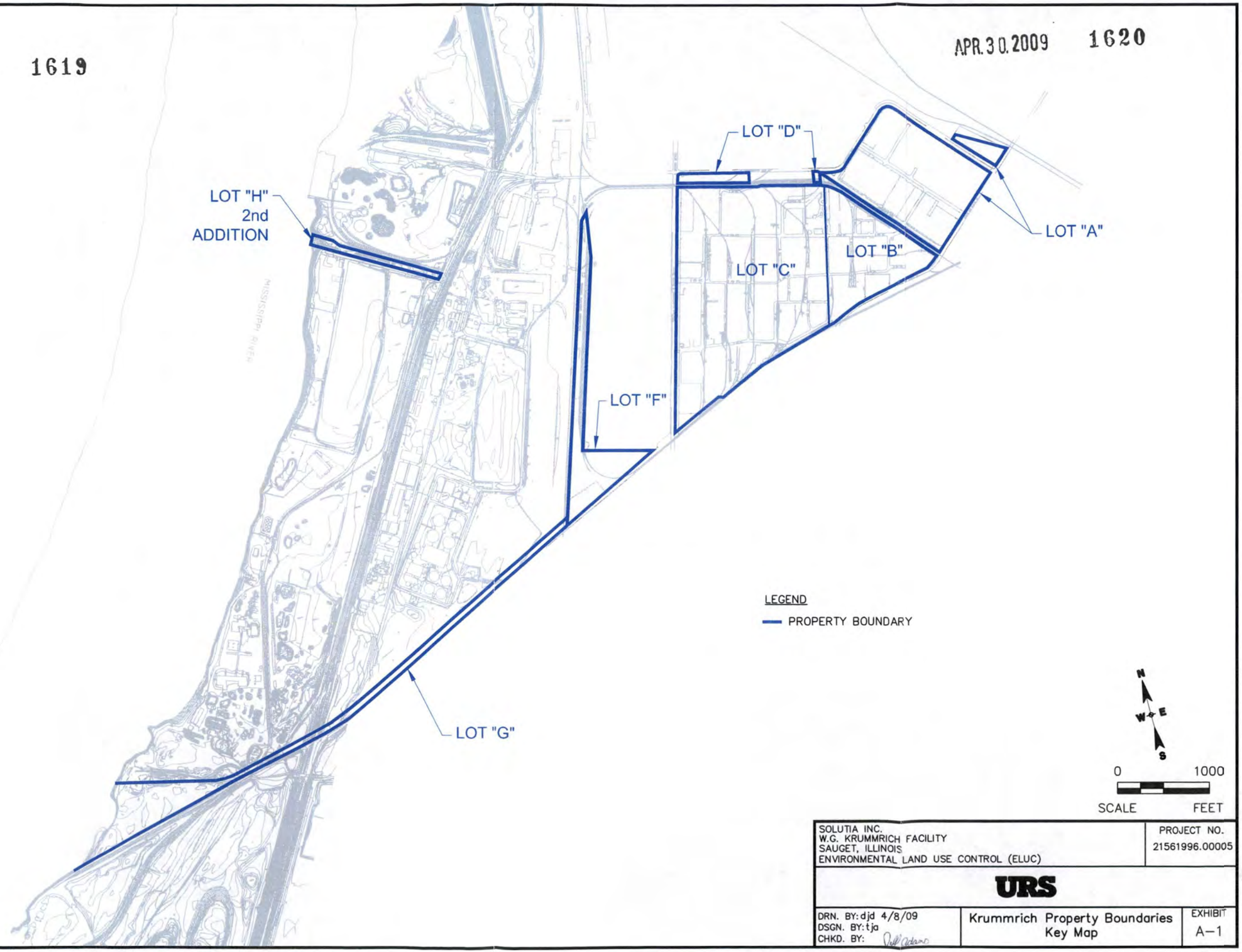
Lot Name	Lot Size	Legal Description in Exhibit	PIN(s) of Lot
Lot A	33.05 acres	Exhibit A-2	01-25.0-112-002 01-25.0-112-006 01-25.0-112-007 01-25.0-115-001
Lots B and C	95.81 acres	Exhibit A-3	01-26.0-201-003 01-26.0-201-004
Lot D	1.84 acres	Exhibit A-5	01-26.0-202-013
Lot F	15.58 acres	Exhibit A-6	01-26.0-103-002

Lot G	27.17 acres	Exhibit A-7	01-27.0-401-004 01-34.0-100-009 01-34.0-100-008
Lot H – 2nd Addition	3.54 acres	Exhibit A-8	01-23.0-300-002

Exhibit A-1 Krummrich Property Boundaries Key Map

APR. 30. 2009 1619

APR. 30. 2009 1620



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)	PROJECT NO. 21561996.00005
URS	
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY:	Krummrich Property Boundaries Key Map
	EXHIBIT A-1

File: P:\ENVIRONMENTAL\21561996 (WGK CMD)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT A-1 WGK (LOTS) KEYMAP.DWG Last edited: 04/08/09 @ 11:12 a.m. MO-ST-LOUIS, MO

Exhibit A-2 Legal Description of Lot A

LOT A (Parking Lot, etc.) – Parcels 1 and 2: **PIN NO.** **01-25.0-112-002**
01-25.0-112-006
01-25.0-112-007
01-25.0-115-001

See Attached Legal Descriptions

The total area of Lot A is **33.05 Acres**, more or less.

APR. 30. 2009 1622

KERR SURVEYING COMPANY, INC.

Serving the Wentzville Area • A Subsidiary of Bax Engineering Company

BOOK 3192 PAGE 47

LAND DESCRIPTION - TAX LOT A (PARTIAL)
BAX PROJECT NO. 92K0737F
1.853 ACRES
MAY 9, 1997
REVISED MAY 22, 1997
REVISED JULY 16, 1997
MEC

PARCEL 1:

A tract of land being part of Lots No. 74 amd 77 of the Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records, St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the Southwest line of relocated Monsanto Avenue as recorded in Book 2485 Page 1855 of the St. Clair County Records, with the Northwest line of State Aid Route 10, (150.00 feet wide); thence along the said Northwest line of State Aid Route 10, North 33 degrees 42 minutes 55 seconds East 80.00 feet to the Actual Point of Beginning of the description herein; thence along the Northeast line of said relocated Monsanto Avenue, North 55 degrees 51 minutes 20 seconds West 531.78 feet to a point; thence North 34 degrees 13 minutes 10 seconds East 60.00 feet to a point; thence along the South line of Illinois Central right-of-way, South 74 degrees 59 minutes 35 seconds East 560.87 feet to a point in the aforesaid Northwest line of State Aid Route 10, (150.00 feet wide); thence along the Northwest line of State Aid Route 10, South 33 degrees 42 minutes 55 seconds West 243.88 feet to the Point of Beginning and containing 1.853 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted for this description.

END OF DESCRIPTION

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KERR SURVEYING COMPANY, INC.

Serving the Wentzville Area • A Subsidiary of Bax Engineering Company

BOOK 3192 PAGE 48

LAND DESCRIPTION - TAX LOT A (PARTIAL)
BAX PROJECT NO. 92K0737F
31.199 ACRES
MAY 9, 1997
REVISED JULY 16, 1997
REVISED AUGUST 19, 1997
MEC

PARCEL 2:

A tract of land being part of Lot No. 75, 76, 77 and 122 of the Commonfields of the St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Beginning at the intersection of the Southwest line of relocated Monsanto Avenue as recorded in Book 2485 Page 1855 of the St. Clair County Records, with the Northwest line of State Aid Route 10, (150.00 feet wide); thence along the said Northwest line of State Aid Route 10 and the direct Southwestwardly prolongation thereof, South 33 degrees 42 minutes 55 seconds West 1005.47 feet to the most Southern corner of property conveyed to Monsanto Company by instrument recorded in Book 2485 Page 1851 of the St. Clair County Records; thence along the Southwest line of said Monsanto Company property being also the Northeast line of right-of-way conveyed to Illinois Transfer Company by instrument recorded in Book 324 Page 502 of the St. Clair County Records, North 56 degrees 06 minutes 24 seconds West 1531.21 feet to a point in the aforesaid Southeast right-of-way line of relocated Monsanto Avenue; thence along said right-of-way line of relocated Monsanto Avenue, the following courses and distances; North 89 degrees 47 minutes 13 seconds East 105.40 feet to a point along a curve to the left whose chord bears North 61 degrees 54 minutes 49 seconds East 215.06 feet and whose radius point bears North 00 degrees 12 minutes 47 seconds West 230.00 feet from the last mentioned point, an arc distance of 223.78 feet to a point; North 34 degrees 02 minutes 25 seconds East 602.07 feet to a point; South 55 degrees 57 minutes 35 seconds East 10.00 feet to a point; along a curve to the right whose chord bears North 79 degrees 05 minutes 32 seconds East 226.48 feet and whose radius point bears South 55 degrees 57 minutes 35 seconds East 160.00 feet from the last mentioned point, an arc distance of 251.62 feet to a point; and South 55 degrees 51 minutes 20 seconds East 1167.55 feet to the Point of Beginning and containing 31.199 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this description.

END OF DESCRIPTION

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Exhibit A-3 Legal Description of Lots B and C

LOTS B and C (Main Plant) – Parcel 3: **PIN NO. 01-26.0-201-003**
01-26.0-201-004

See Attached Legal Description

The total area of Lots B and C (Parcel 3) is **95.81 Acres**, more or less.

KERR SURVEYING COMPANY, INC.

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LAND DESCRIPTION - TAX LOTS B & C
BAX PROJECT NO. 92K0737F
95.812 ACRES
MAY 8, 1997
REVISED JULY 16, 1997
MEC

PARCEL 3:

A tract of land being part of Lots No. 215, 218, 219, 222, 223, 226, 227, 230 and 231 of the "Third Subdivision of the Cahokia Commons", as recorded in Plat Book "A" Page 60 of the St. Clair County Records, part of vacated Falling Springs Road 50 feet wide, vacated by Ordinance No. 53 of the Village of Monsanto, and part of lots 120, 121 and 125 of the Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records. St. Clair, Illinois, and being more particularly described as follows:

Beginning at the intersection of the East line of Illinois Route 3, (100 feet wide), also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County, Illinois records with the northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair Illinois by Book 568 Page 327 of the St. Clair County Records and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2635.15 feet to a point in the South line of Terminal Railroad Association right-of-way; thence along said South line of Terminal Railroad Association the following courses and distances, North 89 degrees 47 minutes 13 seconds East 1442.97 feet to a point; South 00 degrees 12 minutes 47 seconds East 2.00 feet to a point; and North 89 degrees 47 minutes 13 seconds East 74.00 feet to a point in the West line of Falling Springs Road (50.00 feet wide), as vacated by Ordinance No. 53 of the Village of Monsanto; thence continuing along said South line of Terminal Railroad Association right-of-way, South 67 degrees 34 minutes 39 seconds East 232.28 feet to a point in the Southwest line of 50.00 feet wide right-of-way conveyed to Illinois Transfer Company by instrument recorded in Book 324 Page 502 of the St. Clair County Records; thence along said Southwest right-of-way line, South 56 degrees 06 minutes 24 seconds East 1249.91 feet to a point in the Northwest line of State Aid Route 10; thence along the said Northwest line of State Aid Route 10 as established by Ordinance No. 44 of the Village of Monsanto and as recorded in Plat Book 28 Page 47 of the St. Clair County Records, South 33 degrees 53 minutes 36 seconds West 18.00 feet

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KERR SURVEYING COMPANY, INC.

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LAND DESCRIPTION
BAX PROJECT NO. 92K0737F
95.812 ACRES
MAY 8, 1997
REVISED JULY 16, 1997
PAGE 2

to a point; along a curve to the right whose chord bears South 48 degrees 38 minutes 59 seconds West 250.03 feet and whose radius point bears North 56 degrees 46 minutes 35 seconds West 470.00 feet from the last mentioned point, an arc distance of 253.08 feet to a point; South 64 degrees 04 minutes 32 seconds West 754.69 feet to a point; and along a curve to the left whose chord bears South 50 degrees 30 minutes 38 seconds West 256.32 feet and whose radius point bears South 26 degrees 03 minutes 23 seconds East 551.67 feet from the last mentioned point, an arc distance of 258.68 feet to a point in the Northwest line of aforesaid Alton and Southern Railroad right-of-way; thence along the said Northwest line of Alton and Southern Railroad right-of-way, South 64 degrees 06 minutes 20 seconds West 558.38 feet to a point; along a curve to the left whose chord bears South 57 degrees 49 minutes 47 seconds West 426.34 feet and whose radius point bears South 25 degrees 53 minutes 40 seconds East 1950.00 feet from the last mentioned point, an arc distance of 427.20 feet to a point; and South 51 degrees 33 minutes 13 seconds West 430.39 feet to a point in the North line of aforesaid Lot 218 of "Third Subdivision of the Cahokia Commons", thence along the said North line of Lot 218 of "Third Subdivision of the Cahokia Commons", South 89 degrees 47 minutes 13 seconds West 24.24 feet to a point; thence continuing along said Northwest line of Alton and Southern Railroad right-of-way, being 65.00 feet perpendicularly distant Northwest of and parallel to the centerline of the Southeast tract, South 51 degrees 33 minutes 13 seconds West 707.99 feet to the Point of Beginning and containing 95.812 Acres according to a survey by Kerr Surveying, during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this survey.

END OF DESCRIPTION

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Exhibit A-4 Survey Drawing of Lots A, B, and C

A02158120

TRACTS OF LAND BEING PART OF LOTS NO. 215, 218, 219, 222, 223, 226, 227, 230, AND 231 OF THE "THIRD SUBDIVISION OF THE CAHOKIA COMMONS", AND PART OF LOTS NO. 75, 76, 77, 120, 121, 122, AND 125 OF THE COMMONFIELDS OF CAHOKIA, TOWNSHIP 2 NORTH, RANGE 10 WEST OF THE THIRD PRINCIPAL MERIDIAN, ST. CLAIR COUNTY, ILLINOIS

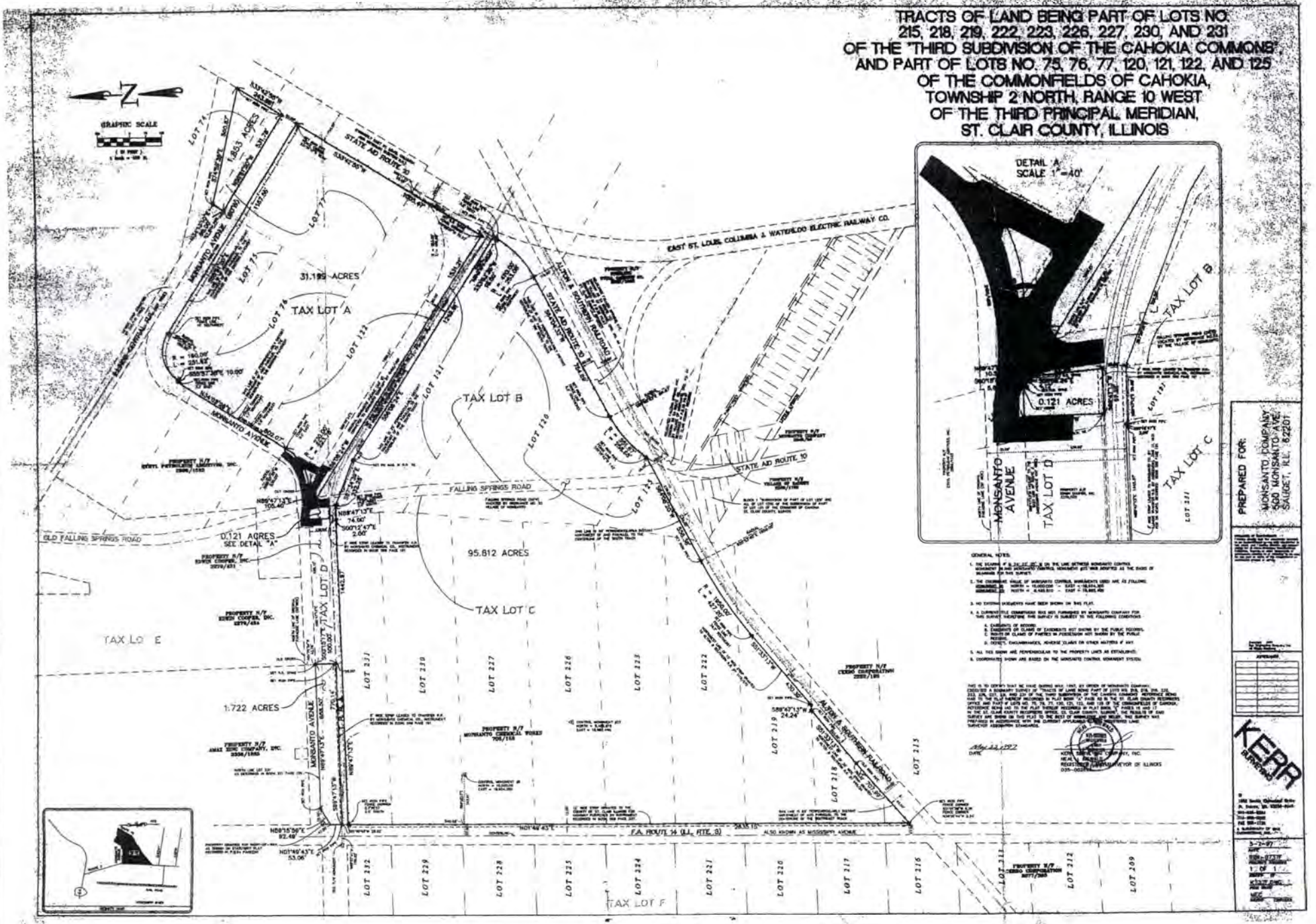

Exhibit A-5 Legal Description of Lot D

Lot D (Vacant Land Along Monsanto Avenue) – Parcels 4 and 5: **PIN NO 01-26.0-202-013**

See Attached Legal Descriptions

The total area of Lot D (Parcels 4 and 5) is **1.84 Acres**, more or less.

APR. 30. 2009 1629

KERR SURVEYING COMPANY, INC.

Serving the Wentzville Area • A Subsidiary of Bax Engineering Company

BOOK 3192 PAGE 51

LAND DESCRIPTION - TAX LOT D (PARTIAL)
BAX PROJECT NO. 92K0737F
1.722 ACRES
MAY 14, 1997
REVISED MAY 22, 1997
REVISED JULY 16, 1997
MEC

PARCEL 4:

A tract of land being part of Lot No. 231 of the "Third Subdivision of the Cahokia Commons", as recorded in Plat Book "A" Page 60 of the St. Clair County Records, St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the East line of Illinois Route 3, (100.00 feet wide), also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County Records with the Northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair, Illinois by Book 568 Page 327 of the St. Clair County Records, and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2663.17 feet to the Actual Point of Beginning of the description herein; thence continuing along said East line, North 01 degrees 49 minutes 43 seconds East 53.06 feet to a point in the South line of property granted for right-of-way, as shown on Statutory Plat prepared for F.A.P. Route 14 Section (64-1) TS; thence along said South line, North 59 degrees 15 minutes 59 seconds East 92.49 feet to a point in the South line of Monsanto Avenue, (50.00 feet wide), said line being also the North line of aforesaid Lot 231 of "Third Subdivision of the Cahokia Commons"; thence along the said South line of Monsanto Avenue, (50.00 feet wide), North 89 degrees 47 minutes 13 seconds East 688.50 feet to a point in the West line of property conveyed to Edwin Cooper, Inc. by deed recorded in Book 2279 Page 431 of the St. Clair County Records; thence along the said West line of said Edwin Cooper, Inc. property, South 00 degrees 15 minutes 17 seconds East 100.00 feet to a point; thence South 89 degrees 47 minutes 13 seconds West 770.14 feet to the Point of Beginning and containing 1.722 Acres according to a survey by Kerr Surveying during May, 1997.

END OF DESCRIPTION

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KERR SURVEYING COMPANY, INC.

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BOOK 3192 PAGE 52

LAND DESCRIPTION - TAX LOT D (PARTIAL)
BAX PROJECT NO. 92K0737F
0.121 ACRES
MAY 14, 1997
MEC

PARCEL 5:

A tract of land being part of Lot No. 121 of the "Commonfields of Cahokia, as recorded in Plat Book "E" Pages 16 and 17 of the St. Clair County Records, St. Clair County Records, St. Clair County, Illinois and being more particularly described as follows:

Commencing at the intersection of the East line of Illinois Route 3, 100.00 feet wide, also known as Mississippi Avenue with the Northwest line of Alton and Southern Railroad right-of-way, said point being also the intersection of the East line of a 12.00 feet wide strip granted to County of St. Clair for highway purposes by instrument recorded in Book 568 Page 327 of the St. Clair County Records with the Northwest line of a 30.00 feet wide strip granted to Alton and Southern Railroad by instrument recorded in Book 995 Page 34 of the St. Clair County Records, said point being 57.00 feet perpendicularly distant East of the centerline of said Illinois Route 3; thence Northwardly along the aforesaid North line of Illinois Route 3 (100.00 feet wide), also known as Mississippi Avenue, being also the said East line of a 12.00 feet wide strip granted to the County of St. Clair, Illinois by Book 568 Page 327 of the St. Clair County Records, and being 57.00 feet perpendicularly distant East of and parallel to the aforesaid centerline of Illinois Route 3 (100.00 feet wide), North 01 degrees 49 minutes 43 seconds East 2763.23 feet to a point in the South line of Monsanto Avenue, 50.00 feet wide, said line being also the North line of Lot 231 of the Third Subdivsion of the Cahokia Commons as recorded in Plat Book A Page 60 of the St. Clair County, Illinois Records; thence along the said South line of Monsanto Avenue, 50.00 feet wide, North 89 degrees 47 minutes 13 seconds East 1452.60 feet to a point in the East line of property conveyed to Edwin Cooper, Inc. by deed recorded in Book 2279 Page 431 of the St. Clair County Record; being the Actual Point of Beginning of the description herein; thence continuing along said South line of Monsanto Avenue, 50.00 feet wide, North 89 degrees 47 minutes 13 seconds East 36.22 feet to a point in the South right-of-way line of relocated Monsanto Avenue as described by instrument recorded in Book 2485 Page 1855 of the St. Clair County Records; thence along said right-of-way line of relocated Monsanto Avenue, South 00 degrees 15 minutes 50 seconds East 5.00 feet to a point; and North 89 degrees 47 minutes 13 seconds East 10.55 feet to a point in the Southwest line of a 60.00 feet wide strip conveyed to Monsanto Company by instrument recorded in Book 2485 Page 1851 of the St. Clair County Records; thence along said Southwest line, South 56 degrees 06 minutes 24 seconds East 4.12 feet to a point in the West line of Falling Springs Road (50.00 feet wide), vacated by Ordinance No. 53 of the Village of Monsanto; thence along said West line of vacated Falling Springs Road, South 04

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KERR SURVEYING COMPANY, INC.

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LAND DESCRIPTION
BAX PROJECT NO. 92K0737F
0.121 ACRES
MAY 14, 1997
PAGE 2

degrees 41 minutes 47 seconds East 92.98 feet to a point; thence South 89 degrees 47 minutes 13 seconds West 57.38 feet to a point in the aforesaid East line of property conveyed to Edwin Cooper, Inc.; thence along said East line North 00 degrees 15 minutes 17 seconds West 100.00 feet to the Point of Beginning and containing 0.121 Acres according to a survey by Kerr Surveying during May, 1997.

The bearing of North 24 degrees 22 minutes 25 seconds West on the line between Monsanto Control Monument #8 and Monsanto Control Monument #25 was adopted as the basis of bearings for this description.

END OF DESCRIPTION

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Exhibit A-6 Legal Description of Lot F

LOT F (including Route 3 Drum Site): **PIN NO. 01-26.0-103-002**

See Attached Legal Description and Survey

The total area of Lot F is **15.58 Acres**, more or less.

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

Lot F
15.58 Acres

A tract of land being parts of Lot Nos. 209, 212, 213, 216, 217, 220, 221, 224, 225, 228, and 229 of the "Third Subdivision of the Cahokia Commons" as per plat thereof recorded in Plat Book A, Page 60 of the St. Clair County Records, in Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois and being more particularly described as follows:

Commencing at a point at the intersection of the West line of a strip of land 10.00 feet in width conveyed to St. Clair County, Illinois for highway purposes by deed recorded in Book 845, Page 258 in the St. Clair County, Illinois land records with the Northwest line of a strip of land 30.00 feet in width conveyed to Alton and Southern Railroad by deed recorded in Book 995, Page 34 in said land records; Thence South 64 degrees 48 minutes 18 seconds West along said Northwest line of said 30.00 foot wide strip a distance of 219.26 feet to a point at the intersection of said Northwest line with the North line of aforesaid Lot 213, said point being the point of beginning of the tract herein described; Thence continuing South 64 degrees 48 minutes 18 seconds West along said Northwest line a distance of 1233.65 feet to a point on the East right-of-way line of the East St. Louis and Carondelet Railroad, now know as the Terminal Railroad Association (TRRA); Thence along and with said East right-of-way line as follows: North 17 degrees 28 minutes 56 seconds East a distance of 2096.45 feet to a point; North 17 degrees 29 minutes 09 seconds East a distance of 925.01 feet to a point; North 17 degrees 53 minutes 01 seconds East a distance of 275.00 feet to a point in the Southeast line of a 28.00 foot wide right-of-way conveyed to the Terminal Railroad Association; Thence along said Southeast line Northeasterly along the arc of a curve to the right having a radius of 559.79 feet and a central angle of 10 degrees 19 minutes 42 seconds a distance of 100.91 feet (chord bearing and distance = North 42 degrees 47 minutes 49 seconds East, 100.77 feet) to a point at the intersection of said Southeast line with the Northwest line of a 57.714 acre tract of land conveyed to Center Ethanol Company, LLC by deed recorded as Document No. A01997050 in the St. Clair County, Illinois land records; Thence along and with said Northwest line of said 57.714 acre tract as follows: South 06 degrees 14 minutes 00 seconds West a distance of 480.19 feet to a point; South 17 degrees 47 minutes 04 seconds West a distance of 676.00 feet to a point; South 17 degrees 33

minutes 27 seconds West a distance of 1346.42 feet to a point; South 13 degrees 02 minutes 18 seconds West a distance of 85.27 feet to a point; South 06 degrees 17 minutes 32 seconds West a distance of 32.96 feet to a point, said point being the Southwest corner of said 57.714 acre tract; Thence South 76 degrees 59 minutes 04 seconds East along the South line of said 57.714 acre tract a distance of 762.86 feet to the point of beginning containing 15.58 acres and subject to any easements, reservations or restrictions on record or now in effect.

This description was written from documents provided.

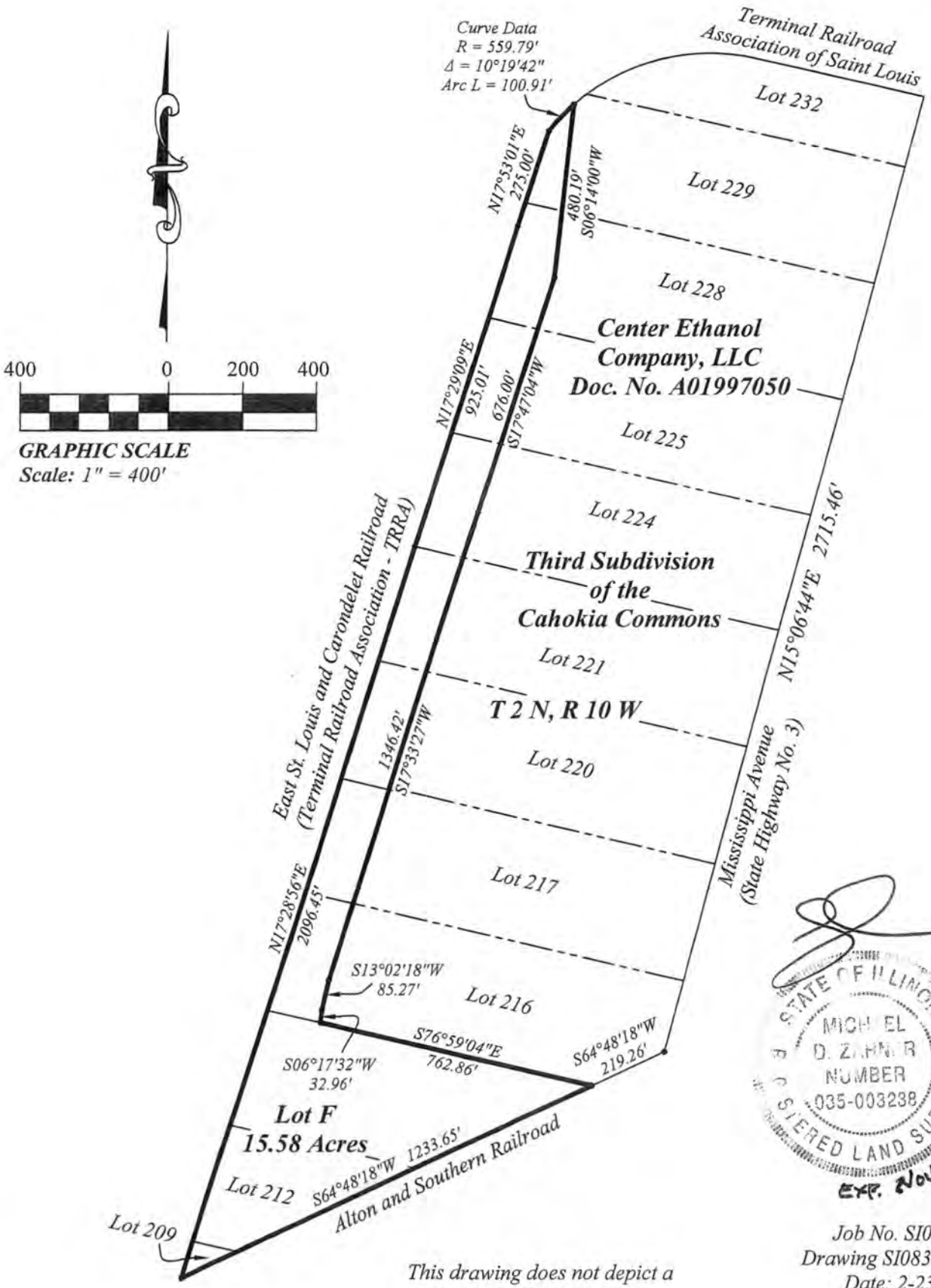
2-23-09

STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lot F"

APR. 30. 2009 **1635**



This drawing does not depict a property boundary survey.

Job No. SI08305
Drawing SI08305 Lot F
Date: 2-23-09
Drawn By: LH

Exhibit A-7 Legal Description of Lot G

LOT G: **PIN NO. 01-27.0-401-004**
01-34.0-100-008
01-34.0-100-009

See Attached Legal Description and Survey

The total area of Lot G is **27.17 Acres**, more or less.

APR. 30. 2009 1637

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573) 547-1452 zahner@zahnerinc.com

"Lot G – Tract 1"
21.44 Acres

Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons as recorded in Plat Book B, Page 25 in the St. Clair County, Illinois, land records in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a 27.170 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the West right-of-way line of the Gulf Mobile and Ohio Railroad with the Northwest line of a 30.00 feet wide strip conveyed to Alton and Southern Railroad by instrument recorded in Book 995, Page 34 in the St. Clair County, Illinois, land records; Thence South 64°01'13" West along said Northwest line a distance of 3499.24 feet to a point in the Eastern Inner Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence South 35°02'13" West along said Eastern Inner Harbor line a distance of 32.99 feet to a point; Thence continuing along said Eastern Inner Harbor line North 54°57'47" West a distance of 250.00 feet to a point in the Eastern Outer Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence North 35°02'13" East along said Eastern Outer Harbor line a distance of 1000.00 feet to a point; Thence South 87°04'02" East a distance of 1088.39 feet to a point of curvature; Thence Northeasterly along the arc of a curve to the left having a radius of 676.66 feet and a central angle of 28°54'59" a distance of 341.50 feet (chord bearing and distance = North 78°28'29" East, 337.89 feet) to a point of tangent; Thence North 64°01'13" East a distance of 1567.98 feet to a point on the aforesaid West right-of-way line of the Gulf Mobile and Ohio Railroad; Thence South 17°46'13" West along said right-of-way line a distance of 106.18 feet to the point of beginning containing 21.44 acres.

This description was written from documents provided.

"Lot G – Tract 2"
5.73 Acres

Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons as recorded in Plat Book B, Page 25 in the St. Clair County, Illinois, land records in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a

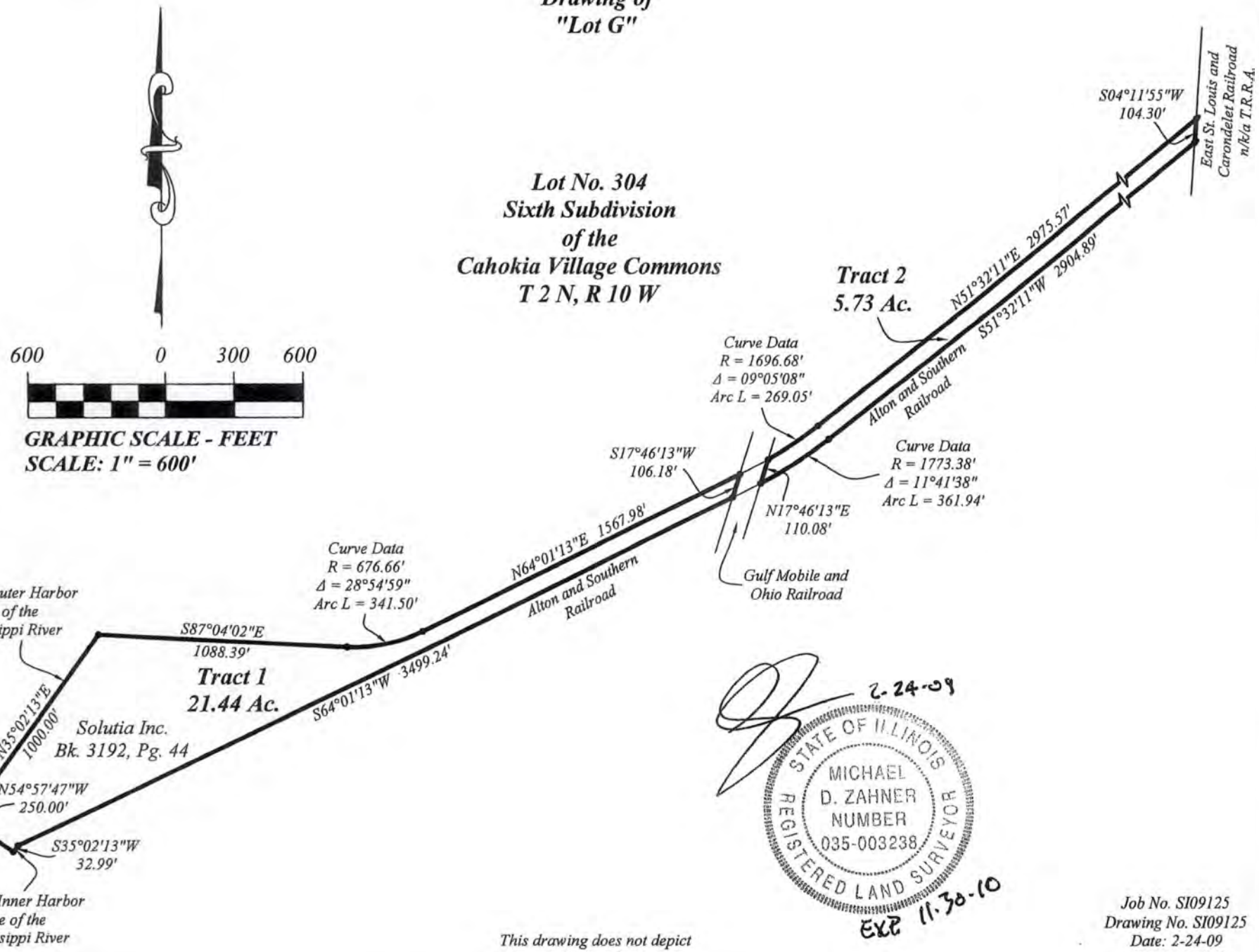
27.170 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the West right-of-way line of the East St. Louis and Carondelet Railroad, now known as T.R.R.A., with the Northwest line of a 30.00 feet wide strip conveyed to Alton and Southern Railroad by instrument recorded in Book 995, Page 34 in the St. Clair County, Illinois, land records; Thence South 51°32'11" West along said Northwest line a distance of 2904.89 feet to a point of curvature; Thence continuing along said Northwest line Southwesterly along the arc of a curve to the right having a radius of 1773.38 feet and a central angle of 11°41'38" a distance of 361.94 feet (chord bearing and distance = South 57°23'00" West, 361.31 feet) to a point at the intersection of said Northwest line with the East right-of-way line of the Gulf Mobile and Ohio Railroad; Thence North 17°46'13" East along said right-of-way line a distance of 110.08 feet to a point; Thence Northeasterly along the arc of a curve to the left having a radius of 1696.68 feet and a central angle of 09°05'08" a distance of 269.05 feet (chord bearing and distance = North 56°04'45" East, 268.77 feet) to a point of tangent; Thence North 51°32'11" East a distance of 2975.57 feet to a point on the aforesaid West right-of-way line of the East St. Louis and Carondelet Railroad; Thence South 04°11'55" West along said right-of-way line a distance of 104.30 feet to the point of beginning containing 5.73 acres.

This description was written from documents provided.

2-24-09

EXP. 11-30-10

Drawing of "Lot G"



2-24-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP 11-30-10

This drawing does not depict a property boundary survey.

Job No. SI09125
Drawing No. SI09125
Date: 2-24-09
Drawn By: LH

APR. 30. 2009 1639

Exhibit A-8 Legal Description of Lot H – 2nd Addition

LOT H – 2nd Addition: **PIN NO. 01-23.0-300-002**

See Attached Legal Description and Survey

The total area of Lot H – 2nd Addition is **3.54 Acres**, more or less.

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

APR. 30. 2009 1641

"Lot H – 2nd Addition"
3.54 Acres

Part of Lot No. 304 of the Sixth Subdivision of the Cahokia Village Commons, as recorded in Plat Book B, Page 25 of the St. Clair County, Illinois, land records, in Township 2 North, Range 10 West of the Third Principal Meridian and being part of a 68.786 acre tract of land conveyed to Solutia Inc. by deed recorded in Book 3192, Page 44 in said land records and being more particularly described as follows: Beginning at a point at the intersection of the North line of Riverview Avenue, seventy (70) feet in width, with the West line of Pitzman Avenue, seventy (70) feet in width; Thence North 70°02'59" West along said North line of Riverview Avenue a distance of 1831.71 feet to a point on the Eastern Outer Harbor line of the Mississippi River as established by the War Department on April 6, 1905; Thence North 17°02'33" East along said Eastern Outer Harbor line a distance of 110.14 feet to a point; Thence South 70°02'59" East a distance of 628.67 feet to a point; Thence South 42°41'59" East a distance of 89.24 feet to a point; Thence South 70°02'59" East a distance of 1142.03 feet to a point on the aforesaid West line of Pitzman Avenue; Thence South 30°21'16" West along said West line a distance of 70.15 feet to the point of beginning containing 3.54 acres.

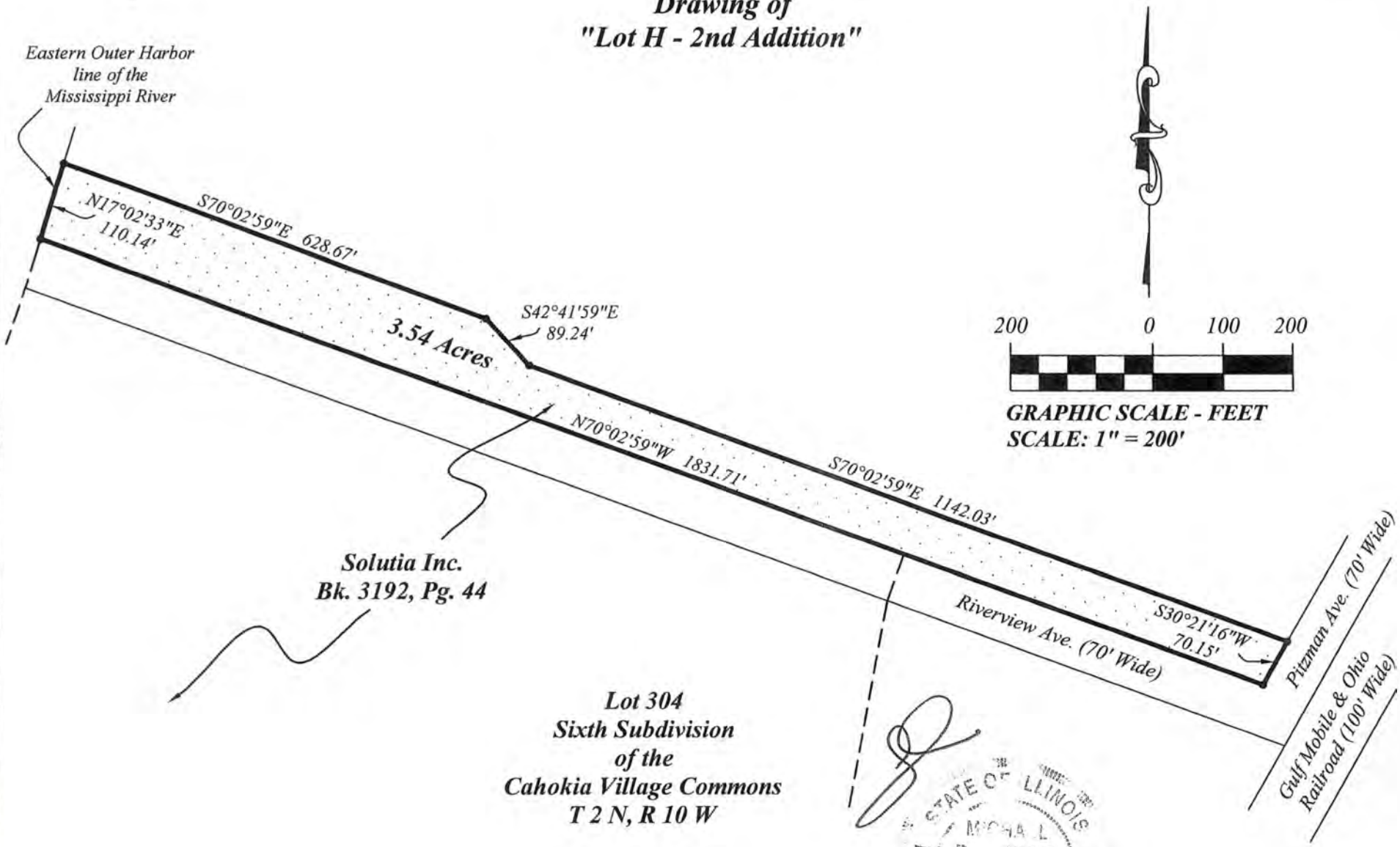
This description was written from documents provided.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

Exp. 11-30-10

Drawing of "Lot H - 2nd Addition"



STATE OF ILLINOIS
MICHAEL D. [illegible]
NUMBER 035-03238
REGISTERED LAND SURVEYOR
EXP. NOV, 2010

This drawing does not depict a property boundary survey.

Job No. SI09122
Drawing No. SI09122
Date: 2-23-09
Drawn By: LH

APR. 30. 2009 1642

Exhibit B

B-1 Legal Description of Property

B-2 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (0'-5' bgs)

B-3 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (5'-10' bgs)

B-4 Contaminants in Soil Exceeding Tier 1 Remediation Criteria (10'-15' bgs)

B-5 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Shallow Hydrogeologic Unit)

B-6 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Middle Hydrogeologic Unit)

B-7 Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria (Deep Hydrogeologic Unit)

B-8 Map of Physical Features Subject to Environmental Land Use Control

B-9 Legal Description and Survey of Route 3 Drum Site Cap

B-10 Legal Descriptions and Surveys of Lead Remediation Areas

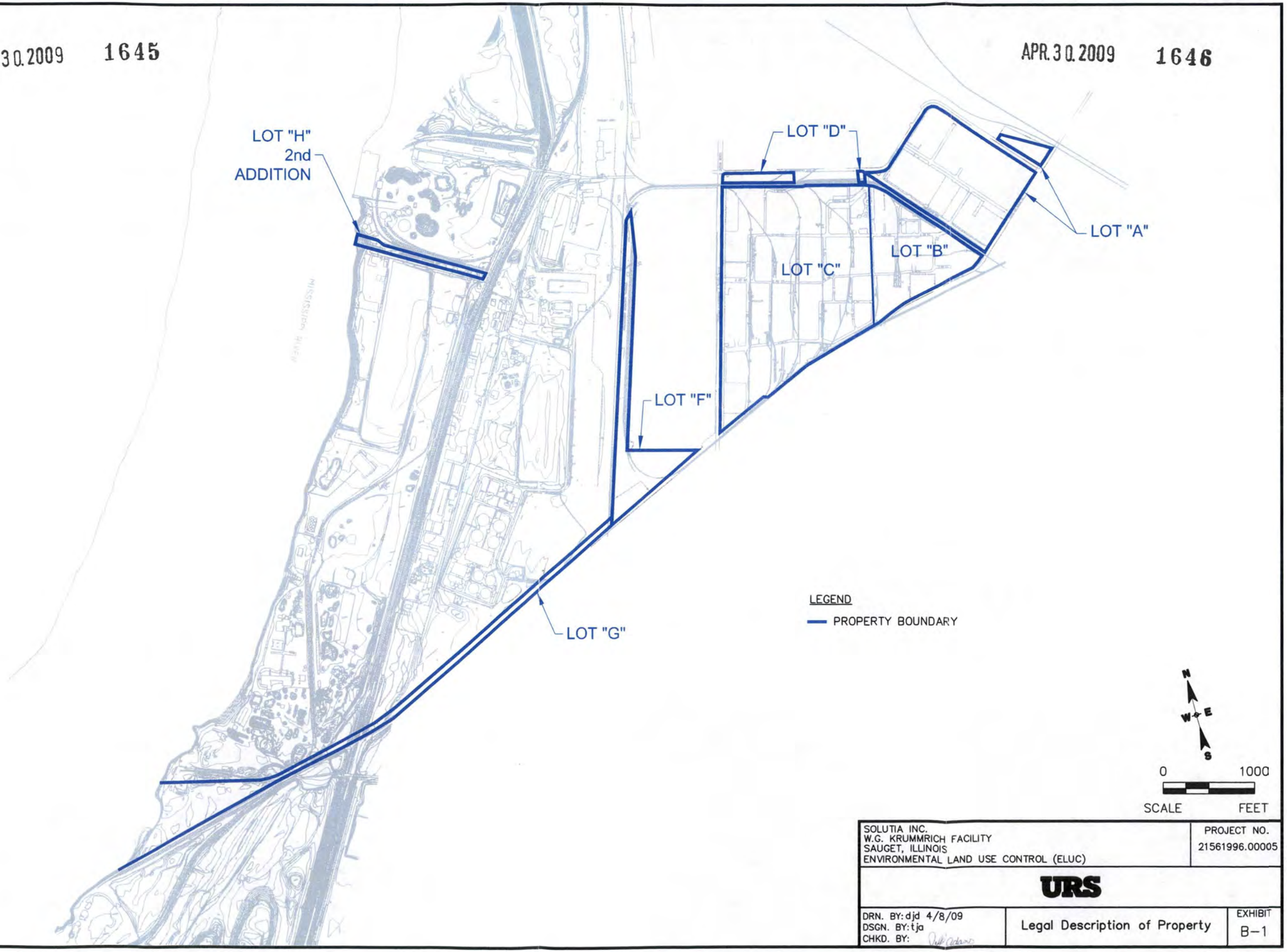
B-11 Groundwater Monitoring Wells to Be Maintained

Exhibit B-1

Legal Description of Property

APR. 30. 2009 1645

APR. 30. 2009 1646



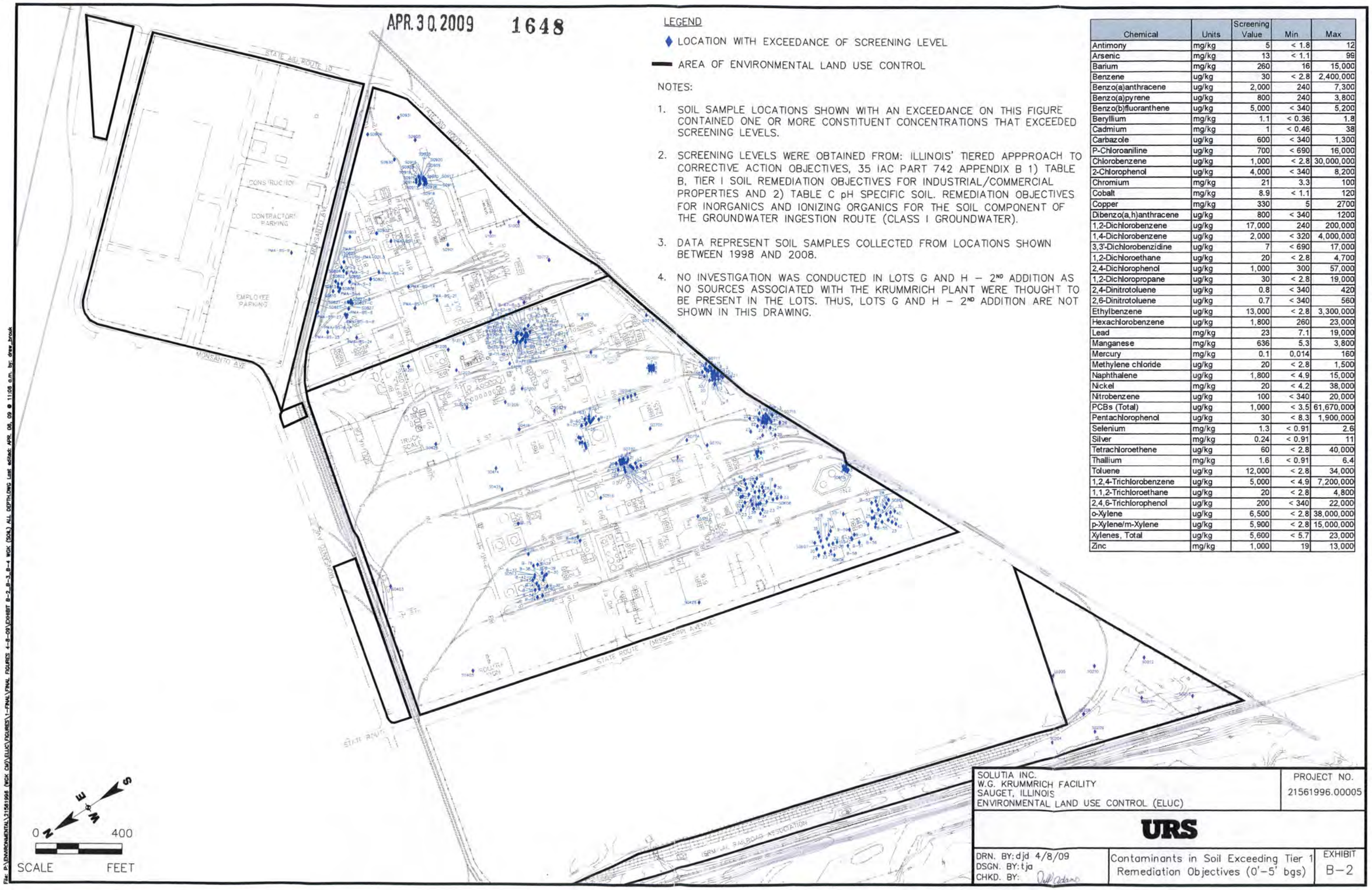
SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)	PROJECT NO. 21561996.00005
URS	
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY:	Legal Description of Property
	EXHIBIT B-1

File: P:\ENVIRONMENTAL\21561996 (WGK CM)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-1 WGK LEGAL DESCRIPTION.DWG Last edited: 04/08/09 @ 11:06 a.m. WC-ST.LOUIS, MO

Exhibit B-2

Contaminants in Soil Exceeding Tier 1 Remediation Criteria (0'-5' bgs)

APR. 30. 2009 1648



LEGEND

♦ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

▬ AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B, TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL. REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).
3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Antimony	mg/kg	5	< 1.8	12
Arsenic	mg/kg	13	< 1.1	99
Barium	mg/kg	260	16	15,000
Benzene	ug/kg	30	< 2.8	2,400,000
Benzo(a)anthracene	ug/kg	2,000	240	7,300
Benzo(a)pyrene	ug/kg	800	240	3,800
Benzo(b)fluoranthene	ug/kg	5,000	< 340	5,200
Beryllium	mg/kg	1.1	< 0.36	1.8
Cadmium	mg/kg	1	< 0.46	38
Carbazole	ug/kg	600	< 340	1,300
P-Chloroaniline	ug/kg	700	< 690	16,000
Chlorobenzene	ug/kg	1,000	< 2.8	30,000,000
2-Chlorophenol	ug/kg	4,000	< 340	8,200
Chromium	mg/kg	21	3.3	100
Cobalt	mg/kg	8.9	< 1.1	120
Copper	mg/kg	330	5	2700
Dibenzo(a,h)anthracene	ug/kg	800	< 340	1200
1,2-Dichlorobenzene	ug/kg	17,000	240	200,000
1,4-Dichlorobenzene	ug/kg	2,000	< 320	4,000,000
3,3'-Dichlorobenzidine	ug/kg	7	< 690	17,000
1,2-Dichloroethane	ug/kg	20	< 2.8	4,700
2,4-Dichlorophenol	ug/kg	1,000	300	57,000
1,2-Dichloropropane	ug/kg	30	< 2.8	19,000
2,4-Dinitrotoluene	ug/kg	0.8	< 340	420
2,6-Dinitrotoluene	ug/kg	0.7	< 340	560
Ethylbenzene	ug/kg	13,000	< 2.8	3,300,000
Hexachlorobenzene	ug/kg	1,800	260	23,000
Lead	mg/kg	23	7.1	19,000
Manganese	mg/kg	636	5.3	3,800
Mercury	mg/kg	0.1	0.014	160
Methylene chloride	ug/kg	20	< 2.8	1,500
Naphthalene	ug/kg	1,800	< 4.9	15,000
Nickel	mg/kg	20	< 4.2	38,000
Nitrobenzene	ug/kg	100	< 340	20,000
PCBs (Total)	ug/kg	1,000	< 3.5	61,670,000
Pentachlorophenol	ug/kg	30	< 8.3	1,900,000
Selenium	mg/kg	1.3	< 0.91	2.6
Silver	mg/kg	0.24	< 0.91	11
Tetrachloroethene	ug/kg	60	< 2.8	40,000
Thallium	mg/kg	1.6	< 0.91	6.4
Toluene	ug/kg	12,000	< 2.8	34,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 4.9	7,200,000
1,1,2-Trichloroethane	ug/kg	20	< 2.8	4,800
2,4,6-Trichlorophenol	ug/kg	200	< 340	22,000
o-Xylene	ug/kg	6,500	< 2.8	38,000,000
p-Xylene/m-Xylene	ug/kg	5,900	< 2.8	15,000,000
Xylenes, Total	ug/kg	5,600	< 5.7	23,000
Zinc	mg/kg	1,000	19	13,000

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

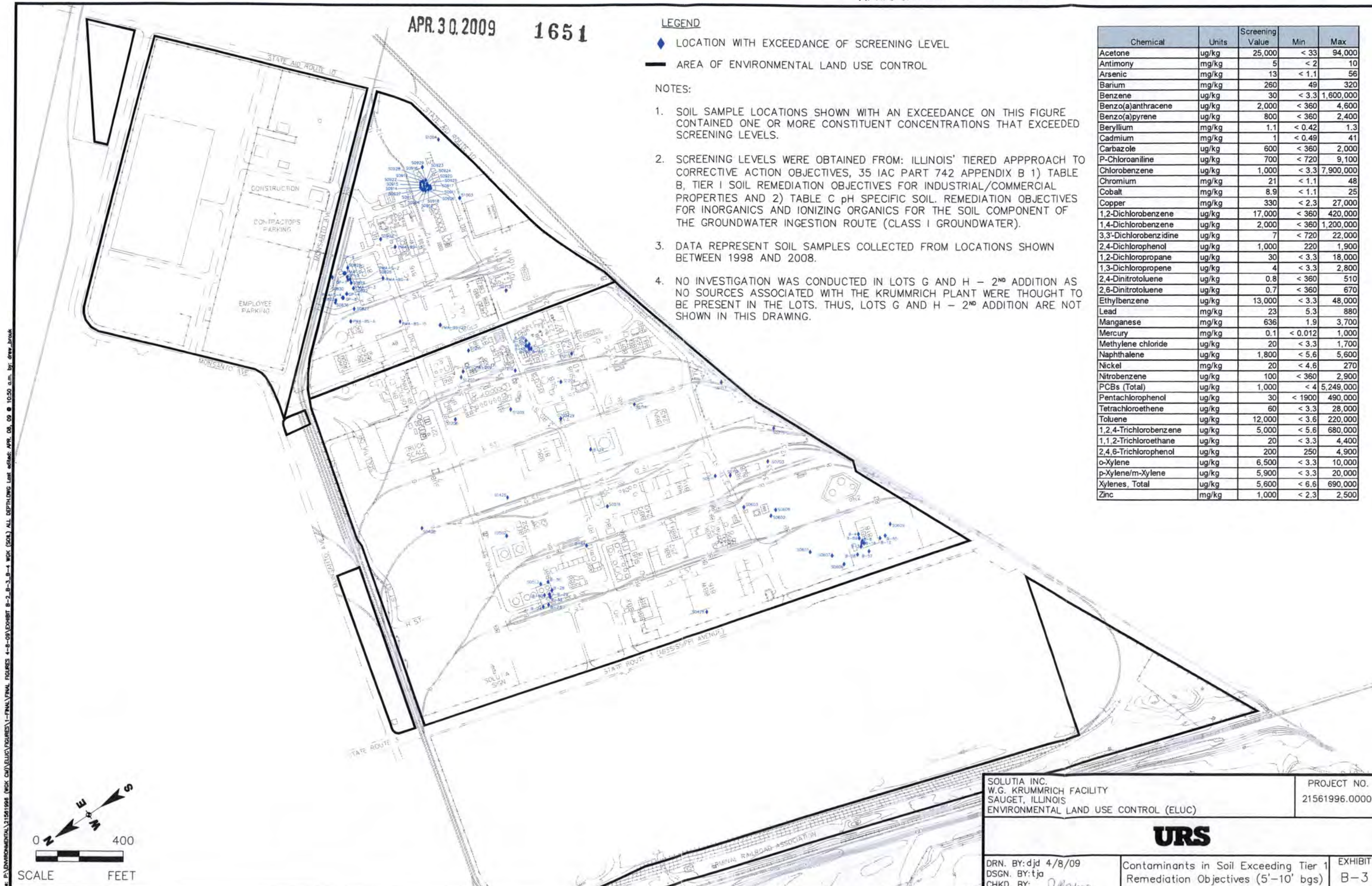
Contaminants in Soil Exceeding Tier 1 Remediation Objectives (0'–5' bgs)

EXHIBIT B–2

File: P:\ENVIRONMENTAL\21561996 (WCK CM)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-2_B-3_B-4 WCK (SOIL) ALL DEPTH.DWG Last edited: APR. 08, 09 @ 11:08 a.m. by: drew_brook

APR. 3 0. 2009 1652

APR. 3 0. 2009 1651



LEGEND

♦ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

▬ AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B, TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL. REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).
3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Acetone	ug/kg	25,000	< 33	94,000
Antimony	mg/kg	5	< 2	10
Arsenic	mg/kg	13	< 1.1	56
Barium	mg/kg	260	49	320
Benzene	ug/kg	30	< 3.3	1,600,000
Benzo(a)anthracene	ug/kg	2,000	< 360	4,600
Benzo(a)pyrene	ug/kg	800	< 360	2,400
Beryllium	mg/kg	1.1	< 0.42	1.3
Cadmium	mg/kg	1	< 0.49	41
Carbazole	ug/kg	600	< 360	2,000
P-Chloroaniline	ug/kg	700	< 720	9,100
Chlorobenzene	ug/kg	1,000	< 3.3	7,900,000
Chromium	mg/kg	21	< 1.1	48
Cobalt	mg/kg	8.9	< 1.1	25
Copper	mg/kg	330	< 2.3	27,000
1,2-Dichlorobenzene	ug/kg	17,000	< 360	420,000
1,4-Dichlorobenzene	ug/kg	2,000	< 360	1,200,000
3,3'-Dichlorobenzidine	ug/kg	7	< 720	22,000
2,4-Dichlorophenol	ug/kg	1,000	220	1,900
1,2-Dichloropropane	ug/kg	30	< 3.3	18,000
1,3-Dichloropropene	ug/kg	4	< 3.3	2,800
2,4-Dinitrotoluene	ug/kg	0.8	< 360	510
2,6-Dinitrotoluene	ug/kg	0.7	< 360	670
Ethylbenzene	ug/kg	13,000	< 3.3	48,000
Lead	mg/kg	23	5.3	880
Manganese	mg/kg	636	1.9	3,700
Mercury	mg/kg	0.1	< 0.012	1,000
Methylene chloride	ug/kg	20	< 3.3	1,700
Naphthalene	ug/kg	1,800	< 5.6	5,600
Nickel	mg/kg	20	< 4.6	270
Nitrobenzene	ug/kg	100	< 360	2,900
PCBs (Total)	ug/kg	1,000	< 4	5,249,000
Pentachlorophenol	ug/kg	30	< 1900	490,000
Tetrachloroethene	ug/kg	60	< 3.3	28,000
Toluene	ug/kg	12,000	< 3.6	220,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 5.6	680,000
1,1,2-Trichloroethane	ug/kg	20	< 3.3	4,400
2,4,6-Trichlorophenol	ug/kg	200	250	4,900
o-Xylene	ug/kg	6,500	< 3.3	10,000
p-Xylene/m-Xylene	ug/kg	5,900	< 3.3	20,000
Xylenes, Total	ug/kg	5,600	< 6.6	690,000
Zinc	mg/kg	1,000	< 2.3	2,500

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO.
21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

Contaminants in Soil Exceeding Tier 1 Remediation Objectives (5'–10' bgs)

EXHIBIT
B–3

Exhibit B-3

Contaminants in Soil Exceeding Tier 1 Remediation Criteria (5'-10' bgs)

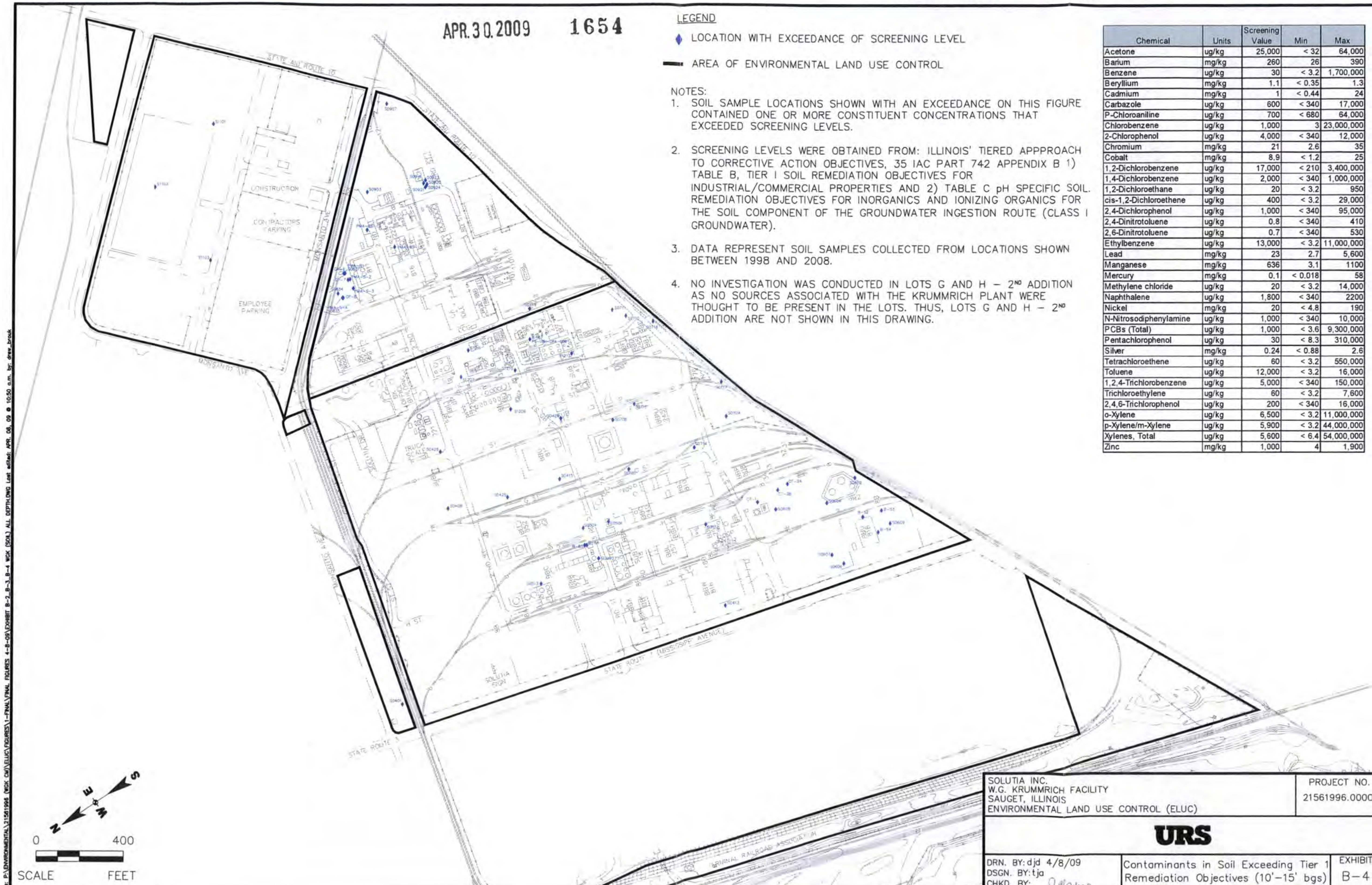
APR. 30. 2009 1653

Exhibit B-4

Contaminants in Soil Exceeding Tier 1 Remediation Criteria (10'-15' bgs)

APR. 3 0. 2009 1655

APR. 3 0. 2009 1654



LEGEND

♦ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

▬ AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. SOIL SAMPLE LOCATIONS SHOWN WITH AN EXCEEDANCE ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.

2. SCREENING LEVELS WERE OBTAINED FROM: ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B 1) TABLE B, TIER I SOIL REMEDIATION OBJECTIVES FOR INDUSTRIAL/COMMERCIAL PROPERTIES AND 2) TABLE C pH SPECIFIC SOIL. REMEDIATION OBJECTIVES FOR INORGANICS AND IONIZING ORGANICS FOR THE SOIL COMPONENT OF THE GROUNDWATER INGESTION ROUTE (CLASS I GROUNDWATER).

3. DATA REPRESENT SOIL SAMPLES COLLECTED FROM LOCATIONS SHOWN BETWEEN 1998 AND 2008.

4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

Chemical	Units	Screening Value	Min	Max
Acetone	ug/kg	25,000	< 32	64,000
Barium	mg/kg	260	26	390
Benzene	ug/kg	30	< 3.2	1,700,000
Beryllium	mg/kg	1.1	< 0.35	1.3
Cadmium	mg/kg	1	< 0.44	24
Carbazole	ug/kg	600	< 340	17,000
P-Chloroaniline	ug/kg	700	< 680	64,000
Chlorobenzene	ug/kg	1,000	3	23,000,000
2-Chlorophenol	ug/kg	4,000	< 340	12,000
Chromium	mg/kg	21	2.6	35
Cobalt	mg/kg	8.9	< 1.2	25
1,2-Dichlorobenzene	ug/kg	17,000	< 210	3,400,000
1,4-Dichlorobenzene	ug/kg	2,000	< 340	1,000,000
1,2-Dichloroethane	ug/kg	20	< 3.2	950
cis-1,2-Dichloroethene	ug/kg	400	< 3.2	29,000
2,4-Dichlorophenol	ug/kg	1,000	< 340	95,000
2,4-Dinitrotoluene	ug/kg	0.8	< 340	410
2,6-Dinitrotoluene	ug/kg	0.7	< 340	530
Ethylbenzene	ug/kg	13,000	< 3.2	11,000,000
Lead	mg/kg	23	2.7	5,600
Manganese	mg/kg	636	3.1	1100
Mercury	mg/kg	0.1	< 0.018	58
Methylene chloride	ug/kg	20	< 3.2	14,000
Naphthalene	ug/kg	1,800	< 340	2200
Nickel	mg/kg	20	< 4.8	190
N-Nitrosodiphenylamine	ug/kg	1,000	< 340	10,000
PCBs (Total)	ug/kg	1,000	< 3.6	9,300,000
Pentachlorophenol	ug/kg	30	< 8.3	310,000
Silver	mg/kg	0.24	< 0.88	2.6
Tetrachloroethene	ug/kg	60	< 3.2	550,000
Toluene	ug/kg	12,000	< 3.2	16,000
1,2,4-Trichlorobenzene	ug/kg	5,000	< 340	150,000
Trichloroethylene	ug/kg	60	< 3.2	7,600
2,4,6-Trichlorophenol	ug/kg	200	< 340	16,000
o-Xylene	ug/kg	6,500	< 3.2	11,000,000
p-Xylene/m-Xylene	ug/kg	5,900	< 3.2	44,000,000
Xylenes, Total	ug/kg	5,600	< 6.4	54,000,000
Zinc	mg/kg	1,000	4	1,900

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

Contaminants in Soil Exceeding Tier 1 Remediation Objectives (10'–15' bgs)

EXHIBIT B–4

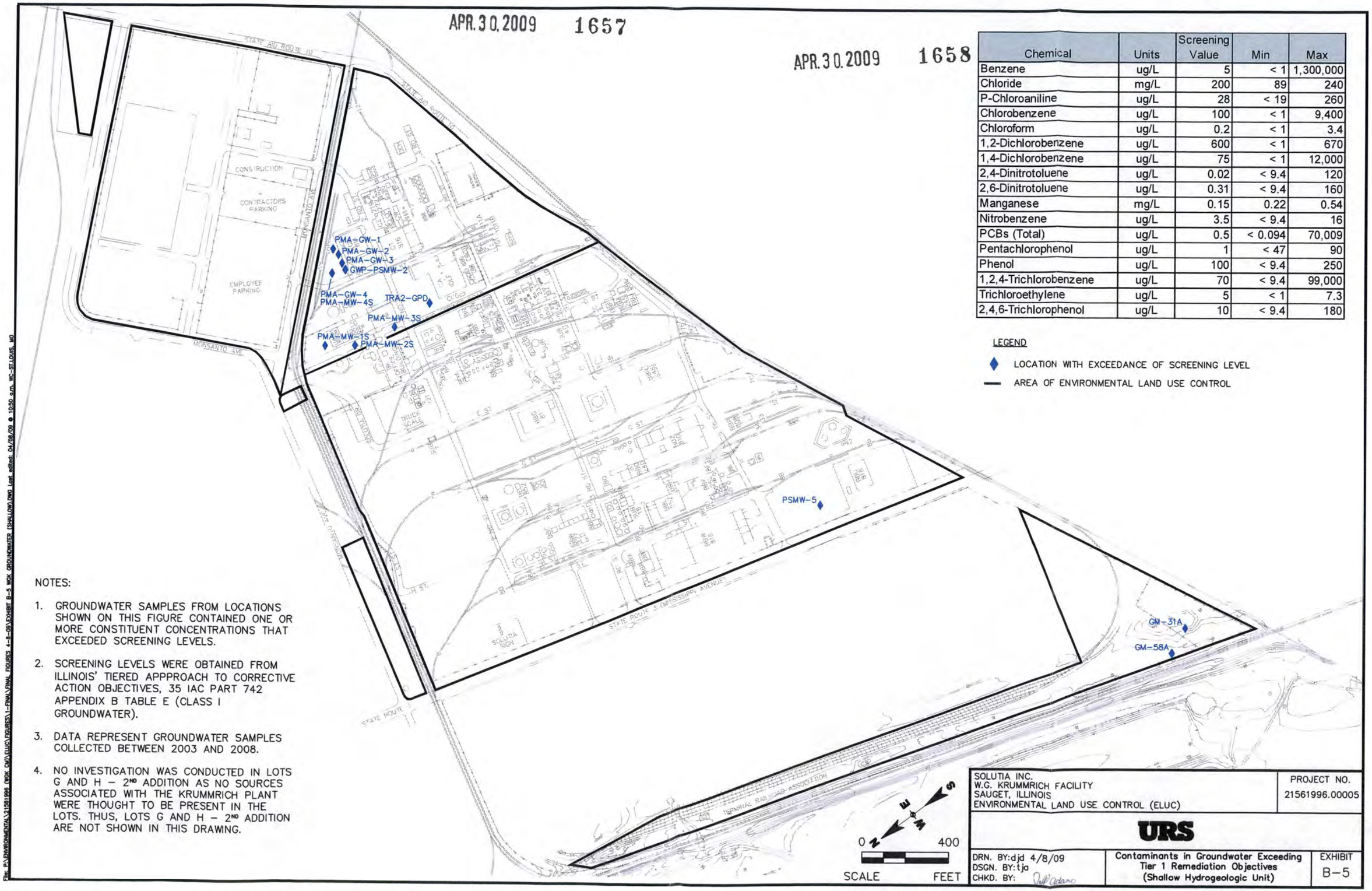
APR. 30. 2009 1656

Exhibit B-5

Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Shallow Hydrogeologic Unit)

APR. 30. 2009 1657

APR. 30. 2009 1658



Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	< 1	1,300,000
Chloride	mg/L	200	89	240
P-Chloroaniline	ug/L	28	< 19	260
Chlorobenzene	ug/L	100	< 1	9,400
Chloroform	ug/L	0.2	< 1	3.4
1,2-Dichlorobenzene	ug/L	600	< 1	670
1,4-Dichlorobenzene	ug/L	75	< 1	12,000
2,4-Dinitrotoluene	ug/L	0.02	< 9.4	120
2,6-Dinitrotoluene	ug/L	0.31	< 9.4	160
Manganese	mg/L	0.15	0.22	0.54
Nitrobenzene	ug/L	3.5	< 9.4	16
PCBs (Total)	ug/L	0.5	< 0.094	70,009
Pentachlorophenol	ug/L	1	< 47	90
Phenol	ug/L	100	< 9.4	250
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	99,000
Trichloroethylene	ug/L	5	< 1	7.3
2,4,6-Trichlorophenol	ug/L	10	< 9.4	180

LEGEND

◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

— AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
3. DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Shallow Hydrogeologic Unit)

EXHIBIT B-5

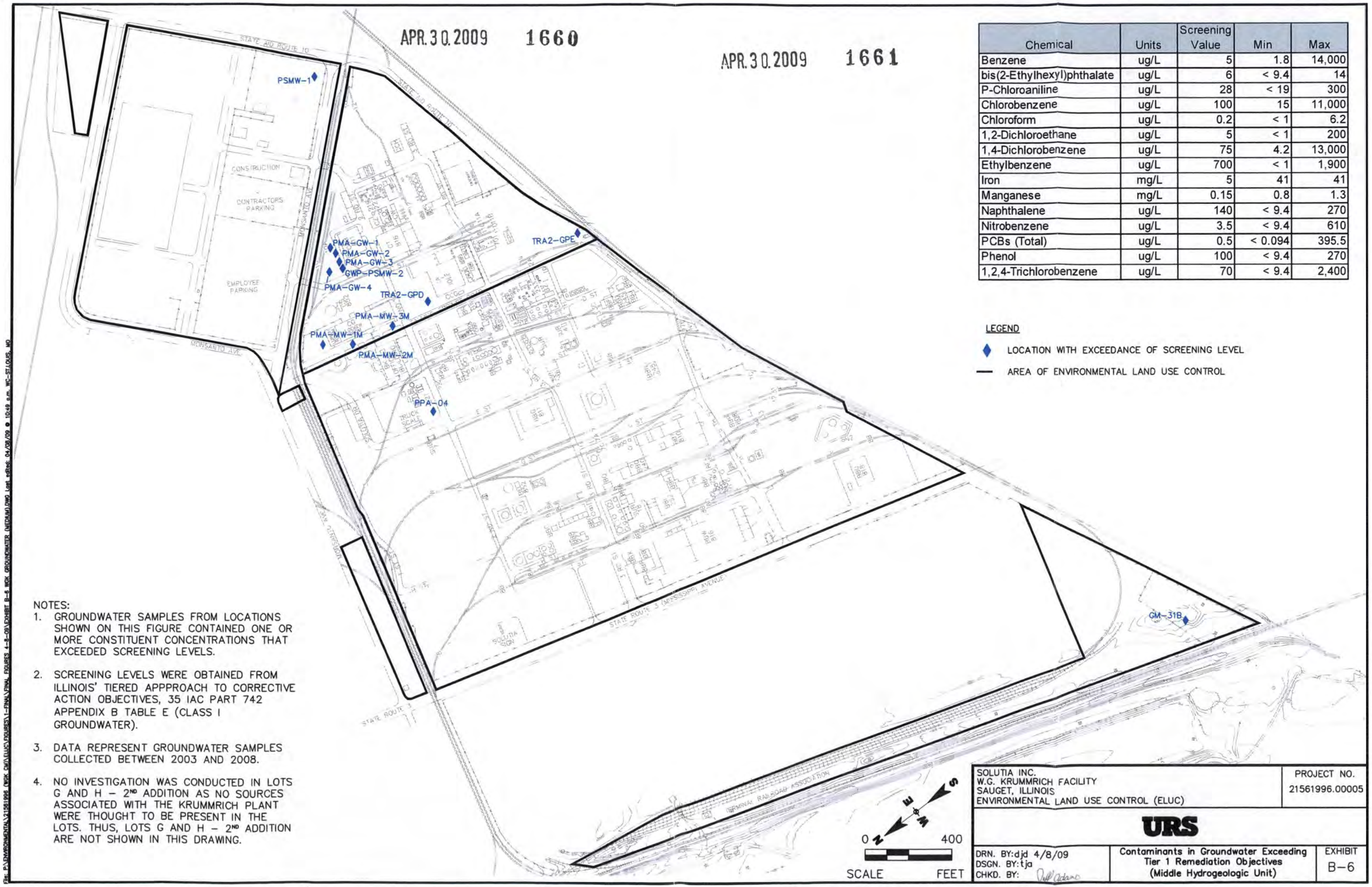
File: G:\ENVIRONMENTAL\21561996 (WGK CM)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-3-09\EXHIBIT B-5 WGK GROUNDWATER (SHALLOW).DWG Last edited: 04/08/09 @ 10:50 a.m. WC-ST.LOUIS, MO

Exhibit B-6

Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Middle Hydrogeologic Unit)

APR. 30. 2009 1660

APR. 30. 2009 1661



Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	1.8	14,000
bis(2-Ethylhexyl)phthalate	ug/L	6	< 9.4	14
P-Chloroaniline	ug/L	28	< 19	300
Chlorobenzene	ug/L	100	15	11,000
Chloroform	ug/L	0.2	< 1	6.2
1,2-Dichloroethane	ug/L	5	< 1	200
1,4-Dichlorobenzene	ug/L	75	4.2	13,000
Ethylbenzene	ug/L	700	< 1	1,900
Iron	mg/L	5	41	41
Manganese	mg/L	0.15	0.8	1.3
Naphthalene	ug/L	140	< 9.4	270
Nitrobenzene	ug/L	3.5	< 9.4	610
PCBs (Total)	ug/L	0.5	< 0.094	395.5
Phenol	ug/L	100	< 9.4	270
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	2,400

LEGEND

◆ LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

— AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
3. DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Middle Hydrogeologic Unit)

EXHIBIT B-6

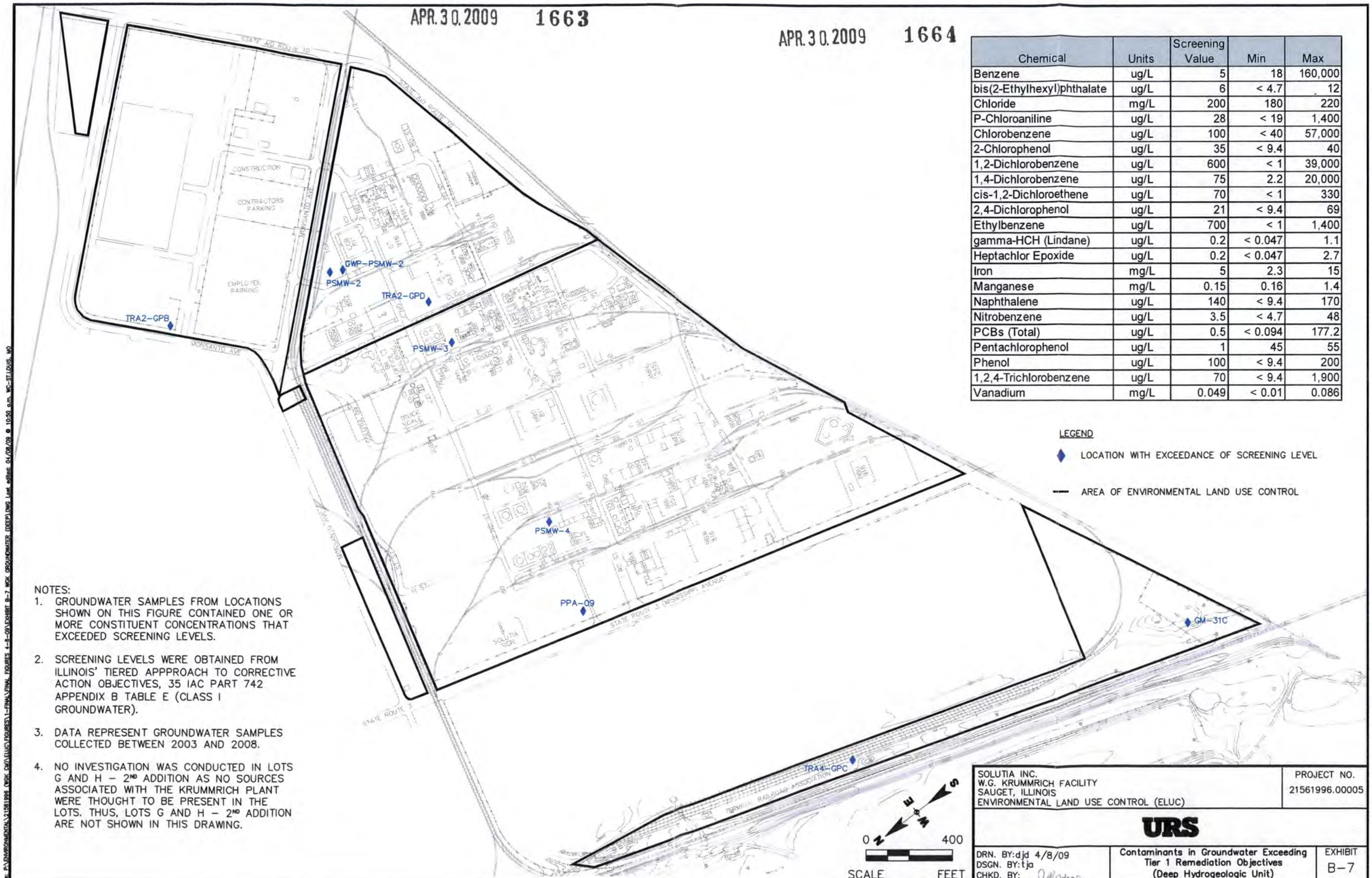
File: P:\ENVIRONMENTAL\21561996 (WBK CMA)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-6 WCK GROUNDWATER (MEDIUM).DWG Last mod: 04/08/09 @ 10:49 a.m. WC-ST.LOUIS, MO

Exhibit B-7

Contaminants in Groundwater Exceeding Tier 1 Remediation Criteria
(Deep Hydrogeologic Unit)

APR. 30. 2009 1663

APR. 30. 2009 1664



Chemical	Units	Screening Value	Min	Max
Benzene	ug/L	5	18	160,000
bis(2-Ethylhexyl)phthalate	ug/L	6	< 4.7	12
Chloride	mg/L	200	180	220
P-Chloroaniline	ug/L	28	< 19	1,400
Chlorobenzene	ug/L	100	< 40	57,000
2-Chlorophenol	ug/L	35	< 9.4	40
1,2-Dichlorobenzene	ug/L	600	< 1	39,000
1,4-Dichlorobenzene	ug/L	75	2.2	20,000
cis-1,2-Dichloroethene	ug/L	70	< 1	330
2,4-Dichlorophenol	ug/L	21	< 9.4	69
Ethylbenzene	ug/L	700	< 1	1,400
gamma-HCH (Lindane)	ug/L	0.2	< 0.047	1.1
Heptachlor Epoxide	ug/L	0.2	< 0.047	2.7
Iron	mg/L	5	2.3	15
Manganese	mg/L	0.15	0.16	1.4
Naphthalene	ug/L	140	< 9.4	170
Nitrobenzene	ug/L	3.5	< 4.7	48
PCBs (Total)	ug/L	0.5	< 0.094	177.2
Pentachlorophenol	ug/L	1	45	55
Phenol	ug/L	100	< 9.4	200
1,2,4-Trichlorobenzene	ug/L	70	< 9.4	1,900
Vanadium	mg/L	0.049	< 0.01	0.086

LEGEND

LOCATION WITH EXCEEDANCE OF SCREENING LEVEL

AREA OF ENVIRONMENTAL LAND USE CONTROL

NOTES:

1. GROUNDWATER SAMPLES FROM LOCATIONS SHOWN ON THIS FIGURE CONTAINED ONE OR MORE CONSTITUENT CONCENTRATIONS THAT EXCEEDED SCREENING LEVELS.
2. SCREENING LEVELS WERE OBTAINED FROM ILLINOIS' TIERED APPPROACH TO CORRECTIVE ACTION OBJECTIVES, 35 IAC PART 742 APPENDIX B TABLE E (CLASS I GROUNDWATER).
3. DATA REPRESENT GROUNDWATER SAMPLES COLLECTED BETWEEN 2003 AND 2008.
4. NO INVESTIGATION WAS CONDUCTED IN LOTS G AND H – 2ND ADDITION AS NO SOURCES ASSOCIATED WITH THE KRUMMRICH PLANT WERE THOUGHT TO BE PRESENT IN THE LOTS. THUS, LOTS G AND H – 2ND ADDITION ARE NOT SHOWN IN THIS DRAWING.

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21561996.00005

URS

DRN. BY: djd 4/8/09
DSGN. BY: tja
CHKD. BY:

Contaminants in Groundwater Exceeding Tier 1 Remediation Objectives (Deep Hydrogeologic Unit)

EXHIBIT B-7

File: P:\ENVIRONMENTAL\21561996 (WGK CAP)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-7 WGK GROUNDWATER (DEEP).DWG Last edited: 04/08/09 @ 10:50 a.m. MO-STLOUIS, MO

Exhibit B-8

Map of Physical Features Subject to Environmental Land Use Control

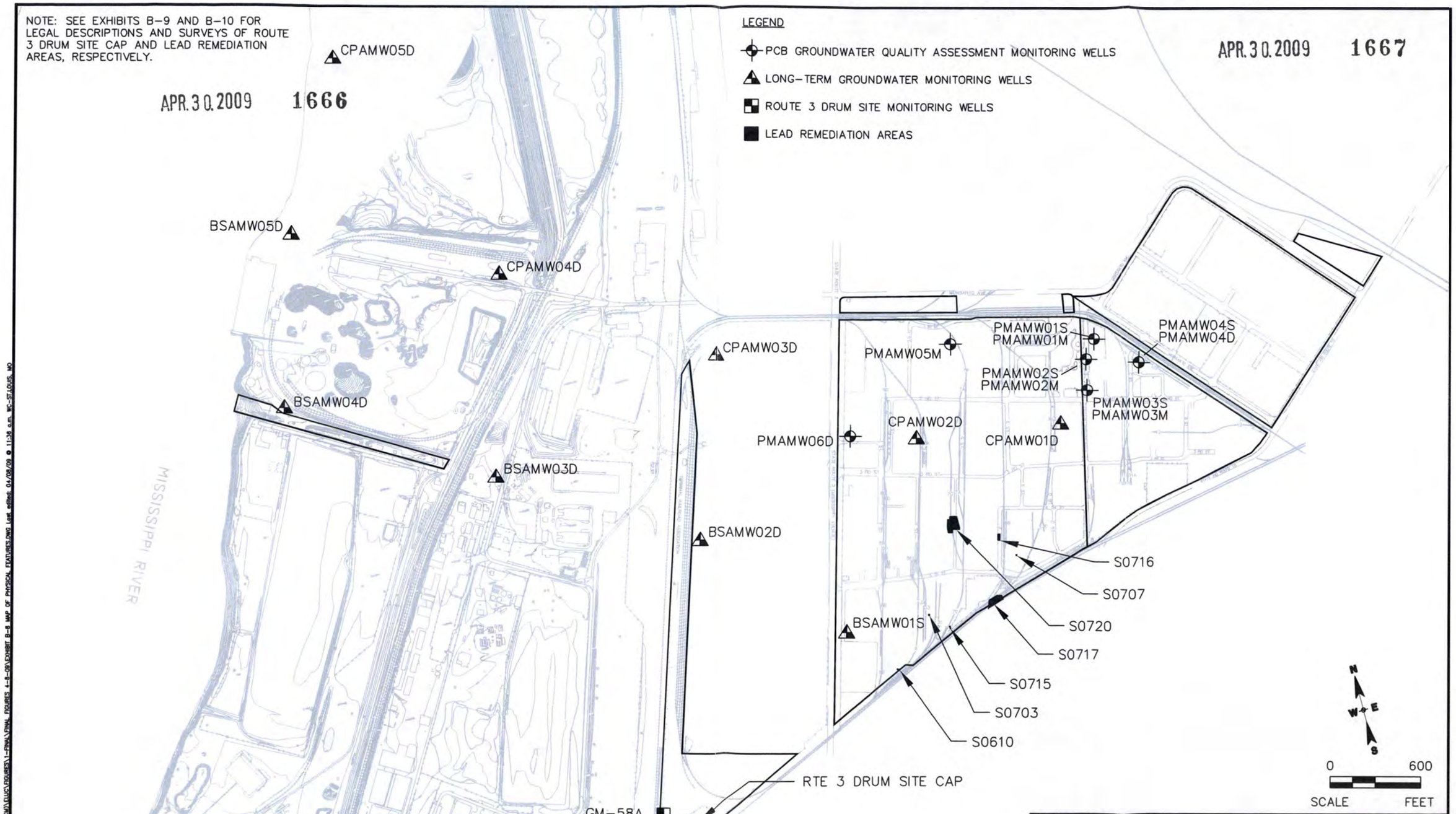
NOTE: SEE EXHIBITS B-9 AND B-10 FOR LEGAL DESCRIPTIONS AND SURVEYS OF ROUTE 3 DRUM SITE CAP AND LEAD REMEDIATION AREAS, RESPECTIVELY.

APR. 30. 2009 1666

APR. 30. 2009 1667

LEGEND

- PCB GROUNDWATER QUALITY ASSESSMENT MONITORING WELLS
- LONG-TERM GROUNDWATER MONITORING WELLS
- ROUTE 3 DRUM SITE MONITORING WELLS
- LEAD REMEDIATION AREAS



SOLUTIA INC. W.G. KRUMMRICH FACILITY SAUGET, ILLINOIS ENVIRONMENTAL LAND USE CONTROL (ELUC)		PROJECT NO. 21561996.00005
URS		
DRN. BY: djd 4/8/09 DSGN. BY: tja CHKD. BY:	Map of Physical Features Subject to Environmental Land Use Control	EXHIBIT B-8

File: P:\ENVIRONMENTAL\21561996 (WGK CMA)\ELUC\FIGURES\1-FINAL\FINAL FIGURES 4-8-09\EXHIBIT B-8 MAP OF PHYSICAL FEATURES.DWG Last edited: 04/08/09 @ 11:36 a.m. WC-ST.LOUIS, MO

Exhibit B-9

Legal Description and Survey of Route 3 Drum Site Cap

APR. 30. 2009 1669

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 800-773-1771
Fax (573) 547-1452 zahner@zahnerinc.com

"Route 3 Drum Site"
0.46 Ac.

A tract of land being part of Lot No. 212 and Lot No. 213 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

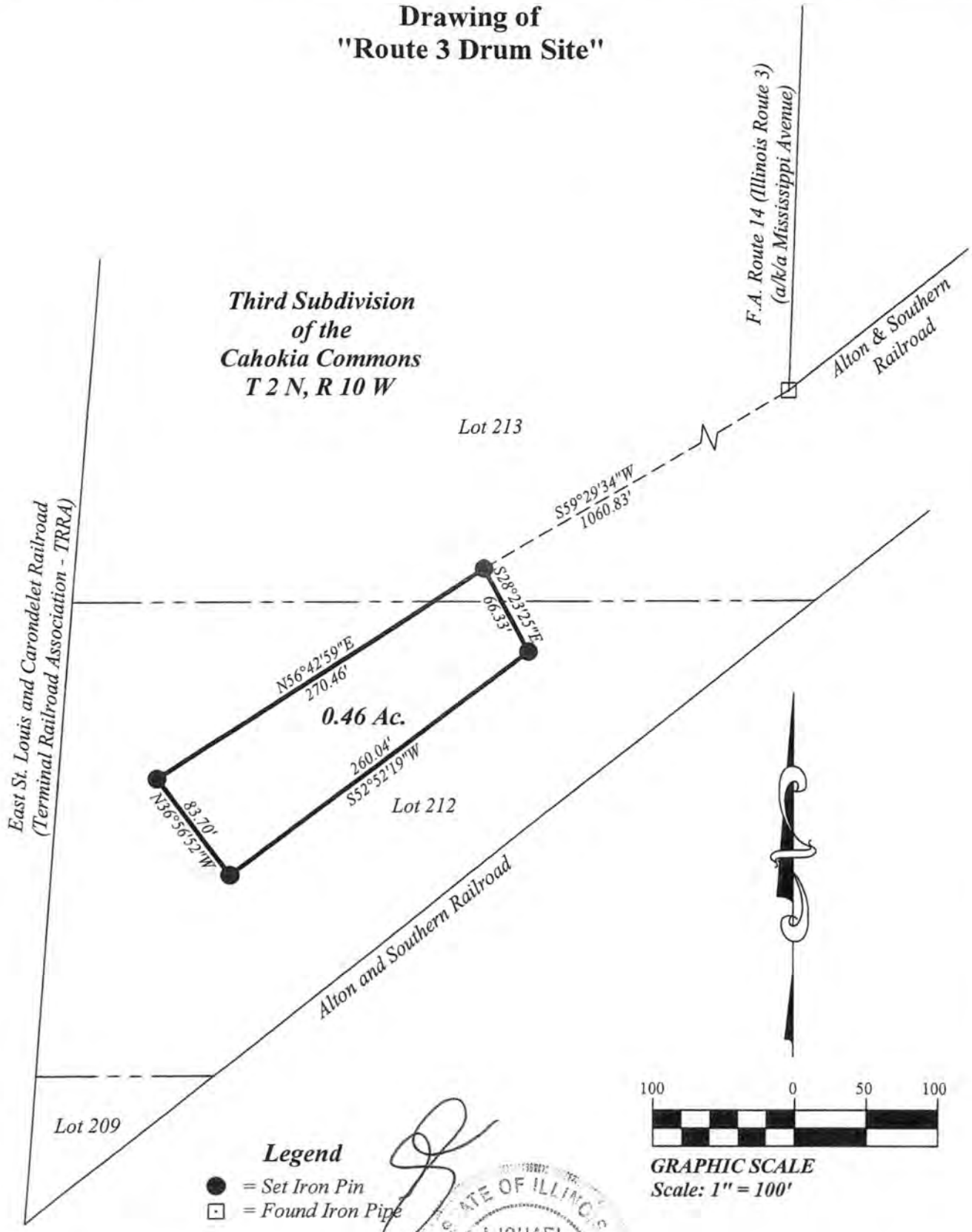
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence South 59°29'34" West a distance of 1060.83 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence South 28°23'25" East a distance of 66.33 feet to an iron pin; Thence South 52°52'19" West a distance of 260.04 feet to an iron pin; Thence North 36°56'52" West a distance of 83.70 feet to an iron pin; Thence North 56°42'59" East a distance of 270.46 feet to the point of beginning containing 0.46 acre.

2-23-09

EXP. 11-30-10

APR. 30. 2009 1670

Drawing of "Route 3 Drum Site"



STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-0032[illegible]
REGISTERED LAND SURVEYOR

11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-Drum
Date: 2-23-09
Drawn By: LH

Exhibit B-10

Legal Descriptions and Surveys of Lead Remediation Areas

An overall summary follows of the various areas, size, and the barrier present over each area.

Area Number	Area Size	Barrier
S0610	507 sq. ft.	24" gravel
S0703	103 sq. ft.	3" asphalt
S0707	100 sq. ft.	3" asphalt
S0715	245 sq. ft.	24" gravel
S0716	1,458 sq. ft.	3" asphalt
S0717	0.14 acre	3" asphalt
S0720	0.14 acre	3" asphalt

Individual legal descriptions and surveys follow this sheet.

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zahner@zahnerinc.com

APR. 30. 2009 1672

"Lead Area S0610"
507 Sq.Ft. (0.01 Ac.)

A tract of land being part of Lot No. 218 and Lot No. 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 48°42'48" East a distance of 568.32 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North 54°08'16" East a distance of 30.00 feet to an iron pin; Thence South 41°21'36" East a distance of 15.12 feet to an iron pin; Thence South 47°11'22" West a distance of 30.04 feet to an iron pin; Thence North 40°51'13" West a distance of 18.75 feet to the point of beginning containing 507 square feet (0.01 acre).

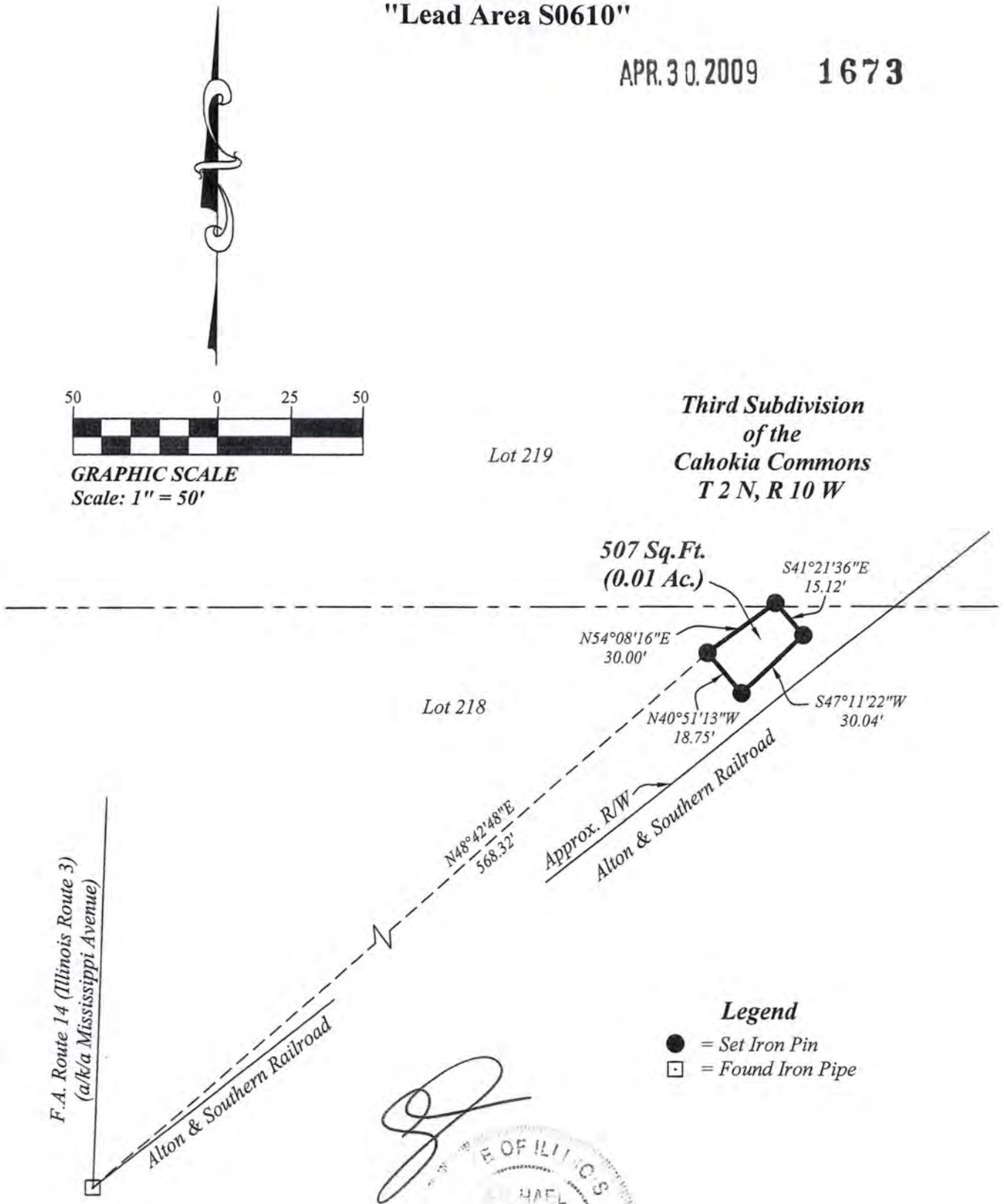
2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0610"

APR. 30. 2009 1673



This drawing does not depict a property boundary survey and is not intended for fee conveyance.

STATE OF ILLINOIS
MICHAEL
ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

Job No. SI09104
Drawing No. SI09104-S0610
Date: 2-23-09
Drawn By: LH

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zahner@zahnerinc.com

APR. 30. 2009 1674

"Lead Area S0703"
103 Sq.Ft.

A tract of land being part of Lot No. 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 41°20'42" East a distance of 944.18 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence South 88°53'57" East a distance of 10.35 feet to a cottonpicker spindle; Thence South 00°28'31" West a distance of 10.09 feet to a cottonpicker spindle; Thence North 87°34'13" West a distance of 10.28 feet to a cottonpicker spindle; Thence North 00°02'01" East a distance of 9.85 feet to the point of beginning containing 103 square feet.

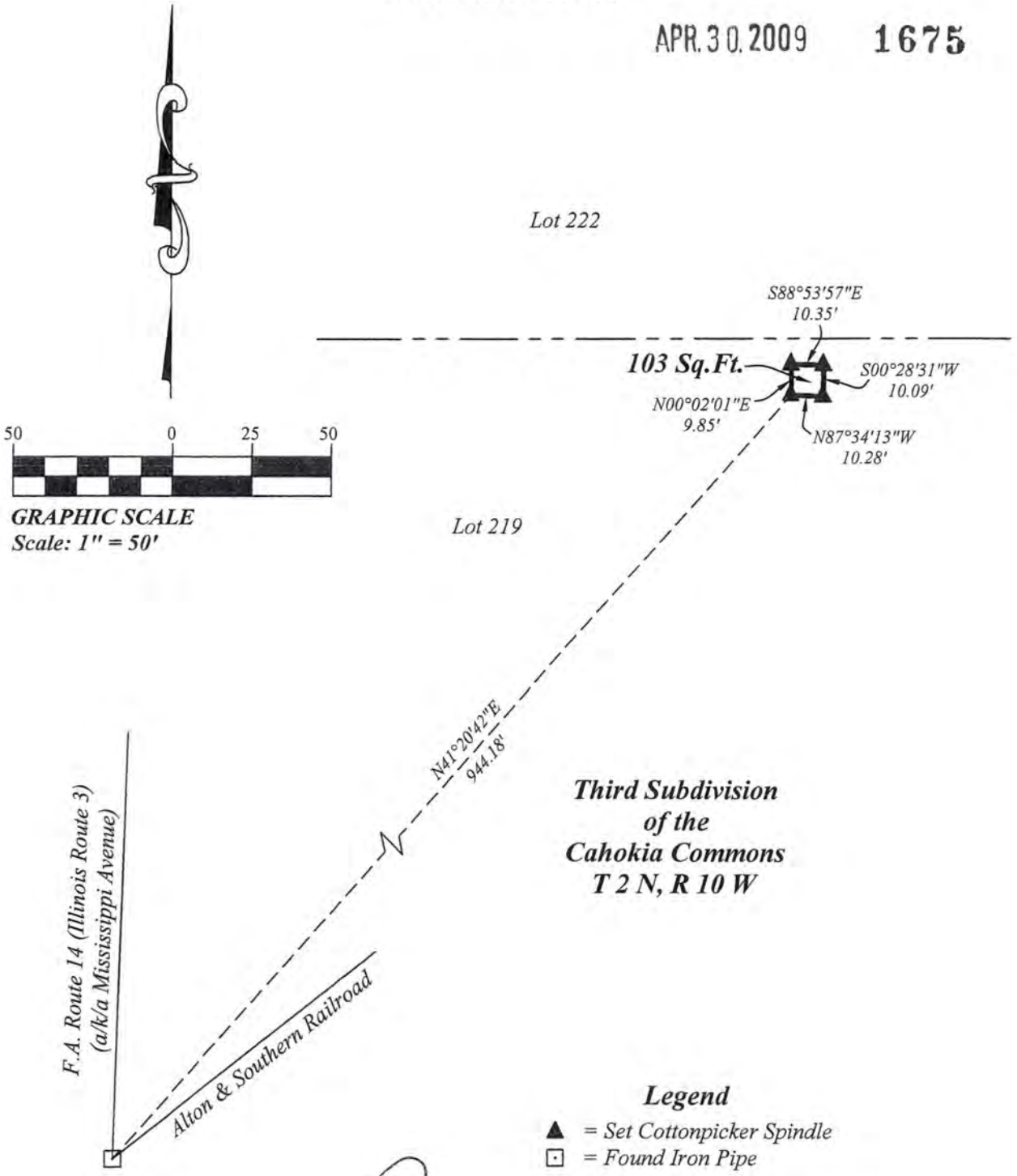
2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0703"

APR. 30. 2009 1675



ILLINOIS
MICHAEL
D ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0703
Date: 2-23-09
Drawn By: LH

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PROFESSIONAL LAND SURVEYORS

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zahner@zahnerinc.com

APR. 30. 2009 **1676**

"Lead Area S0707"
100 Sq.Ft.

A tract of land being part of Lot No. 222 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 48°05'42" East a distance of 1545.67 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 02°03'09" East a distance of 9.92 feet to a PK nail; Thence South 85°29'30" East a distance of 10.07 feet to a PK nail; Thence South 02°03'00" West a distance of 10.05 feet to a PK nail; Thence North 84°44'17" West a distance of 10.08 feet to the point of beginning containing 100 square feet.

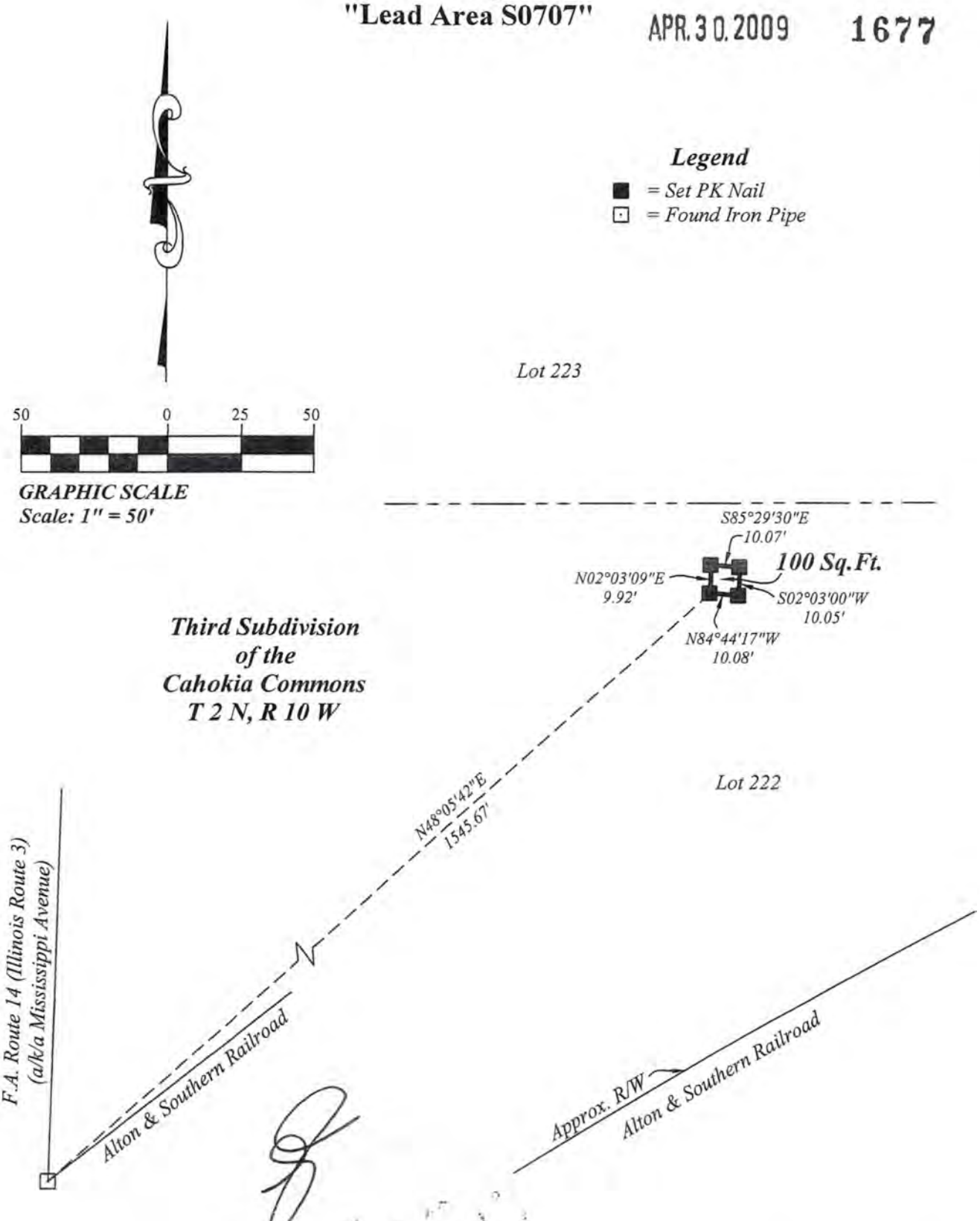
2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0707"

APR. 30. 2009 1677



This drawing does not depict a property boundary survey and is not intended for fee conveyance.

EXP. 11-30-10

Job No. SI09104
Drawing No. SI09104-S0707
Date: 2-23-09
Drawn By: LH

ZAHNER & ASSOCIATES, INC.
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zahner@zahnerinc.com

APR. 30. 2009 1678

"Lead Area S0715"
245 Sq.Ft.

A tract of land being part of Lot 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 51°44'09" East a distance of 983.22 feet to an iron pin, said iron pin being the point of beginning of the tract herein described; Thence North 36°24'26" East a distance of 20.04 feet to an iron pin; Thence South 55°58'33" East a distance of 12.21 feet to an iron pin; Thence South 36°19'05" West a distance of 20.00 feet to an iron pin; Thence North 56°10'51" West a distance of 12.24 feet to the point of beginning containing 245 square feet.

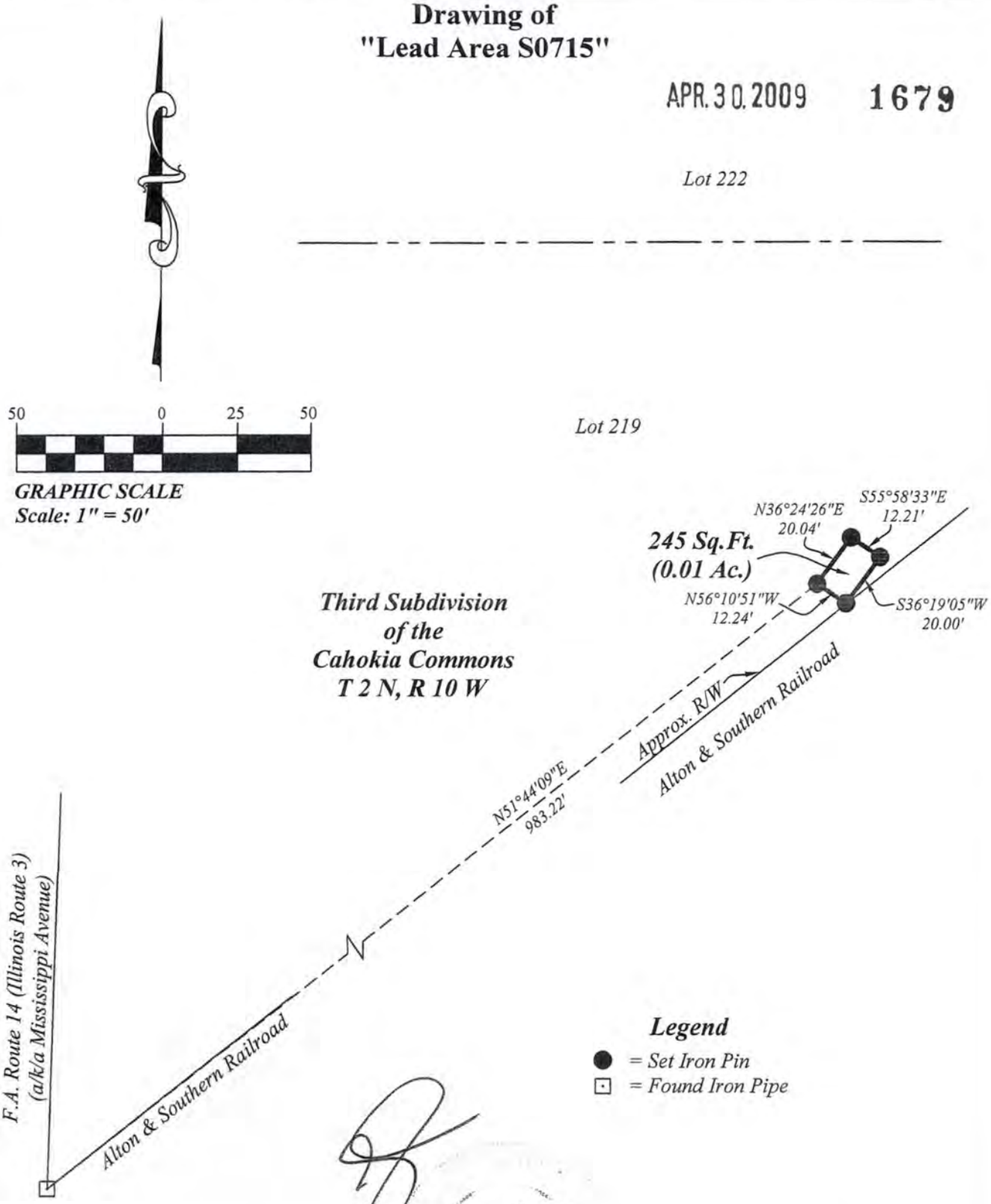
2-23-09

OF ILLINOIS
UMBER
5-003288
ERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0715"

APR. 30. 2009 1679



NUMBER
035-00 238
RED LAND SURVE
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0715
Date: 2-23-09
Drawn By: LH

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PROFESSIONAL LAND SURVEYORS

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zahner@zahnerinc.com

APR. 30. 2009 **1680**

"Lead Area S0716"
1458 Sq.Ft. (0.03 Ac.)

A tract of land being part of Lot No. 223 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 43°13'38" East a distance of 1591.41 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 00°00'16" West a distance of 62.58 feet to a PK nail; Thence South 88°28'46" East a distance of 23.26 feet to a cottonpicker spindle; Thence South 00°25'40" East a distance of 61.59 feet to a cottonpicker spindle; Thence South 89°05'39 West a distance of 23.71 feet to the point of beginning containing 1458 square feet (0.03 acre).

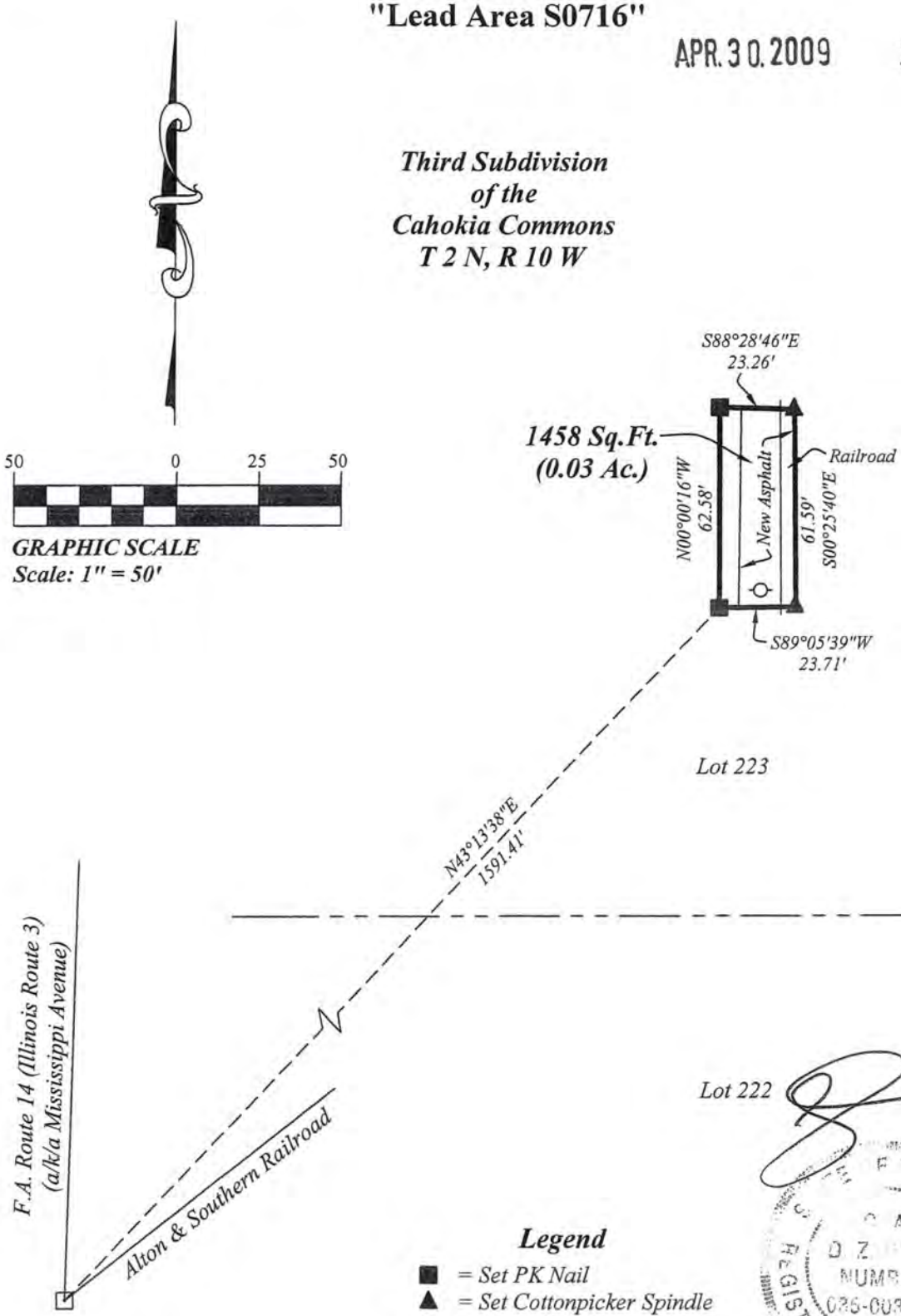
2-23-09

STATE OF ILLINOIS
MICHAEL
D. ZAHNER
NUMBER
035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of
"Lead Area S0716"

APR. 30. 2009 1681



REGISTERED LAND SURVEYOR
NUMBER
035-003230
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0716
Date: 2-23-09
Drawn By: LH

APR. 30. 2009 1682

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0717"
0.14 Ac.

A tract of land being part of Lot No. 222 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

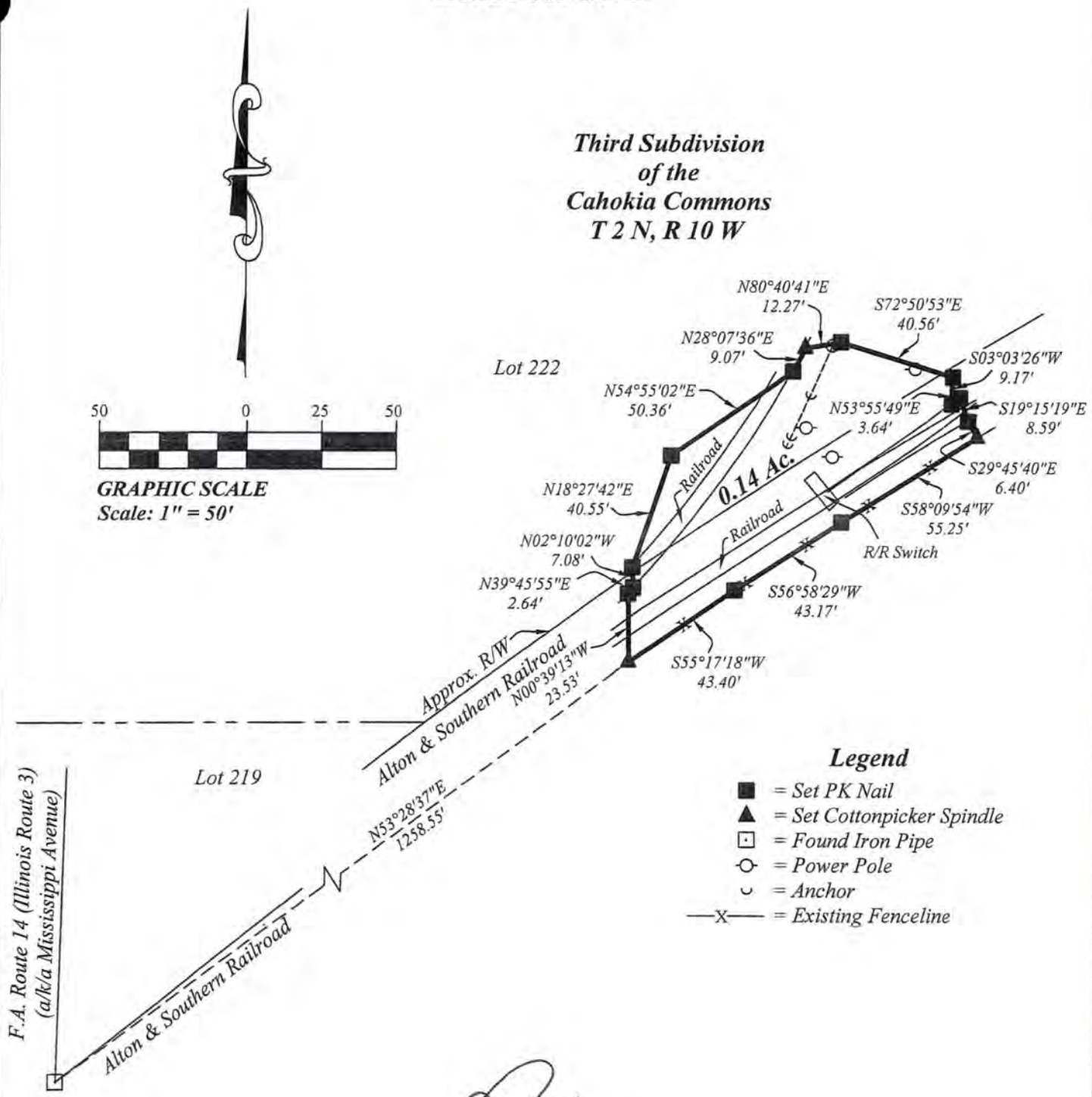
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 53°28'37" East a distance of 1258.55 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence North 00°39'13" West a distance of 23.53 feet to a PK nail; Thence North 39°45'55" East a distance of 2.64 feet to a PK nail; Thence North 02°10'02" West a distance of 7.08 feet to a PK nail; Thence North 18°27'42" East a distance of 40.55 feet to a PK nail; Thence North 54°55'02" East a distance of 50.36 feet to a PK nail; Thence North 28°07'36" East a distance of 9.07 feet to a cottonpicker spindle; Thence North 80°40'41" East a distance of 12.27 feet to a PK nail; Thence South 72°50'53" East a distance of 40.56 feet to a PK nail; Thence South 03°03'26" West a distance of 9.17 feet to a PK nail; Thence North 53°55'49" East a distance of 3.64 feet to a PK nail; Thence South 19°15'19" East a distance of 8.59 feet to a PK nail; Thence South 29°45'40" East a distance of 6.40 feet to a cottonpicker spindle; Thence South 58°09'54" West a distance of 55.25 feet to a PK nail; Thence South 56°58'29" West a distance of 43.17 feet to a PK nail; Thence South 55°17'18" West a distance of 43.40 feet to feet to the point of beginning containing 0.14 acre.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-002238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of "Lead Area S0717"



STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003938
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0717
Date: 2-23-09
Drawn By: LH

APR. 30. 2009 1684

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771 1-800-773-1771
Fax (573)547-1452 zahner@zahnerinc.com

"Lead Area S0720"
0.14 Acre

A tract of land being part of Lot No. 223 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

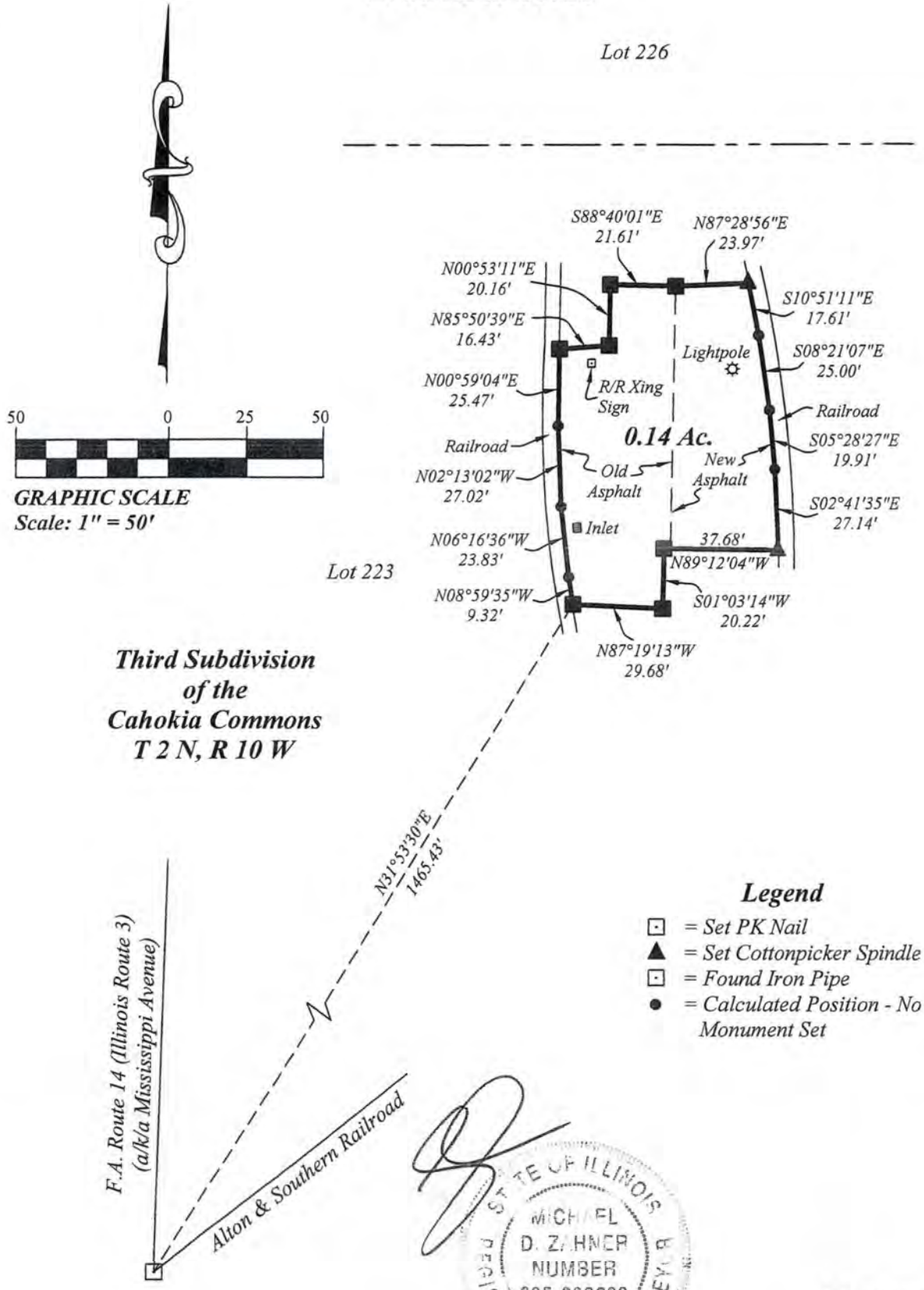
Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 31°53'30" East a distance of 1465.43 feet to a PK nail, said PK nail being the point of beginning of the tract herein described; Thence North 08°59'36" West a distance of 9.32 to a point; Thence North 06°16'35" West a distance of 23.83 feet to a point; Thence North 02°13'02" West a distance of 27.02 feet to a point; Thence North 00°59'04" East a distance of 25.47 feet to a PK nail; Thence North 85°50'39" East a distance of 16.43 feet to a PK nail; Thence North 00°53'11" East a distance of 20.16 feet to a PK nail; Thence South 88°40'01" East a distance of 21.61 feet to a PK nail; Thence North 87°28'56" East a distance of 23.97 feet to a cottonpicker spindle; Thence South 10°51'11" East a distance of 17.61 feet to a point; Thence South 08°21'07" East a distance of 25.00 feet to a point; Thence South 05°28'27" East a distance of 19.91 feet to a point; Thence South 02°41'35" East a distance of 27.14 feet to a cottonpicker spindle; Thence North 89°12'04" West a distance of 37.68 feet to a PK nail; Thence South 01°03'14" West a distance of 20.22 feet to a PK nail; Thence North 87°19'13" West a distance of 29.68 feet to the point of beginning containing 0.14 acre.

2-23-09

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

EXP. 11-30-10

Drawing of "Lead Area S0720"



Third Subdivision of the Cahokia Commons T 2 N, R 10 W

Legend

- ⊡ = *Set PK Nail*
- ▲ = *Set Cottonpicker Spindle*
- ⊡ = *Found Iron Pipe*
- ● = *Calculated Position - No Monument Set*

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR
EXP. 11-30-10

This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI09104
Drawing No. SI09104-S0720
Date: 2-23-09
Drawn By: LH

Exhibit B-11

Groundwater Monitoring Wells to be Maintained

The following monitoring wells are to be maintained so that samples can be collected and analyzed on the frequency and for the constituents required by the respective programs:

- Route 3 Drum Site (Exhibits B-8 and B-9): GM-31A and GM-58A

- Long-Term Groundwater Monitoring Program (Exhibit B-8): BSA(Benzene Storage Area)-MW-01S, BSA-MW-02D, BSA-MW-03D, BSA-MW-04D, and BSA-MW-05D, and CPA(Chlorobenzene Process Area)-MW-01D, CPA-MW-02D, CPA-MW-03D, CPA-MW-04D, and CPA-MW-05D.

- PCB Groundwater Quality Assessment Program (Exhibit B-8): PMA(PCB Manufacturing Area)-MW-01S, PMA-MW-01M, PMA-MW-02S, PMA-MW-02M, PMA-MW-03S, PMA-MW-03M, PMA-MW-04S, PMA-MW-04D, PMA-MW-05M, and PMA-MW-06D

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