SOIL SAMPLE RESULTS:	SDG 303978	SDG 304253
	B-1-03	B-2-41
	B-2-04	B-1-27
	B-3-06	<b>SDG 304421</b>
	B-4-06	B-3-33
	GP-12(II)-04	B-5-27
	GP-7(II)-03	<b>SDG 304536</b>
	B-6-04	GP-12(II)-17
	B-5-04.5	GP-12(II)-17-Dup
	SDG 304173	B-4-35
	B-6-23	
	GP-7(II)-19	
	GP-7(II)-19-Dup	
SOIL VAPOR SAMPLE RESULTS:	<b>SDG 0806072</b>	SDG 0806099
	GP-12-A-060308	GP-13-A-060408
	GP-12-B-060308	GP-13-B-060408
	GP-12-C-060308	GP-13-C-060408
	GP-12-D-060308	GP-13-D-060408
	GP-11-A-060308	GP-9-A-060408
	GP-11-B-060308	GP-9-B-060408
	GP-11-B-060308-DUP	GP-9-C-060408
	GP-11-C-060308	GP-9-C-060408-DUP
	GP-11-D-060308	GP-9-D-060408
GROUNDWATER SAMPLE RESULTS:	SDG 305672	SDG 305871
	P58-060908	B1-061208
	P58-060908D	B2-061208
	P56-060908	B2-061208D
	P73-061008	B3-061208
	P75-061008	B4-061208
	P66-061008	B5-061308
	P54-061008	B6-061308
	P57-061108	SDG 308728

P54072508



# **Rand Avenue Data Review**

Laboratory SDG: 305672

**Reviewer: Tony Sedlacek** 

Date Reviewed: 7/22/2008

Guidance: National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: Route 111/Rand Avenue Vicinity Investigation Work Plan.

P58-060908	P58-060908D
P56-060908	P73-061008
P75-061008	P75-061008EB
P66-061008	P54-061008
P57-061108	TB061108

#### 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?

No, although not indicated in the laboratory case narrative, VOCs were detected in the trip blank, equipment blank and method blank. VOC LCS, surrogate and MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria. 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	and the second		

# 4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration	Units
P75-061008EB	VOCs	Benzene	12.5	µg/L
P75-061008EB	VOCs	n-Butylbenzene	1.17	μg/L
P75-061008EB	VOCs	Ethylbenzene	3.79	μg/L
P75-061008EB	VOCs	Isopropylbenzene	1.1	μg/L
P75-061008EB	VOCs	Methylene chloride	1.64	µg/L
P75-061008EB	VOCs	Naphthalene	4.82	µg/L
P75-061008EB	VOCs	n-Propylbenzene	2.04	μg/L
P75-061008EB	VOCs	1,2,4-Trimethylbenzene	17	μg/L
P75-061008EB	VOCs	1,3,5-Trimethylbenzene	4.54	µg/L
P75-061008EB	VOCs	o-Xylene	1.96	μg/L
P75-061008EB	VOCs	<i>m</i> , <i>p</i> -Xylene	10.9	μg/L
TB061108	VOCs	Methylene chloride	2.39	μg/L
510737-1-BLK	VOCs	Methylene chloride	7.25	µg/L
511007-1-BLK	VOCs	Methylene chloride	2.92	µg/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.

Field ID	Parameter	Analyte	New RL	Qualification
P54-061008	VOCs	Benzene	6.29	U
P54-061008	VOCs	Ethylbenzene	-	U
P54-061008	VOCs	Methylene chloride	-	U
P75-061008	VOCs	1,2,4-Trimethylbenzene	38.2	U
P54-061008	VOCs	1,2,4-Trimethylbenzene	-	U
P75-061008	VOCs	1,3,5-Trimethylbenzene	10.8	U
P66-061008	VOCs	1,3,5-Trimethylbenzene	5.69	U
P75-061008	VOCs	o-Xylene		U
P75-061008	VOCs	<i>m</i> , <i>p</i> -Xylene	34.5	U
P66-061008	VOCs	<i>m</i> , <i>p</i> -Xylene	-	U

#### 5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
510949-BKS	VOCs	Dichlorodifluoromethane	131	N/A	70-130

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

Field ID	Parameter	Analyte	Qualification
P58-060908	VOCs	Dichlorodifluoromethane	J
P58-060908D	VOCs	Dichlorodifluoromethane	J
P57-061108	VOCs	Dichlorodifluoromethane	J

#### 6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Field ID	Parameter	Surrogate	Recovery	Criteria
P58-060908	VOCs	1,2-Dichloroethane-D4	61	80-120
P58-060908D	VOCs	1,2-Dichloroethane-D4	58	80-120

Analytical data that required qualification based on surrogate data are included in the table below. Analytical data which were reported as nondetect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound benzene was reported from the diluted analysis for samples P58-060908 and P58-060908D and all diluted analysis surrogate recoveries were within evaluation criteria; therefore, benzene was not qualified.

Field ID	Parameter	Analyte	Qualification
P58-060908	VOCs	All VOC detects/nondetects	J/UJ
P58-060908D	VOCs	All VOC detects/nondetects	J/UJ

### 7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, samples P66-061008 and P54-061008 were spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
P54-061008	VOCs	Dichlorodifluoromethane	131/121	8	70-130/23
P54-061008	VOCs	1,1-Dichloropropene	68/70	3	75-125/20
P54-061008	VOCs	Methylene chloride	73/73	0	75-125/35
P66-061008	VOCs	Benzene	124/190	42	66-142/21
P66-061008	VOCs	Bromomethane	61/74	19	70-130/20
P66-061008	VOCs	Methyl tert-butyl ether	252/276	9	75-125/20
P66-061008	VOCs	Chloroethane	67/84	23	70-130/20
P66-061008	VOCs.	2,2-Dichloropropane	74/90	20	75-125/20
P66-061008	VOCs	Ethylbenzene	108/156	36	75-125/20
P66-061008	VOCs	Isopropylbenzene	85/129	41.	75-125/20
P66-061008	VOCs	Naphthalene	89/123	32	75-125/20
P66-061008	VOCs	Vinyl chloride	73/85	15	75-125/20

Analytical data that required qualification based on MS/MSD data are included in the table below. 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	Anal	yte with small	Qualification
N/A				

#### 8.0 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			

# 9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P58-060908	P58-060908D

Were field duplicates within evaluation criteria?

Yes

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

# 10.0 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
P58-060908	VOCs	10000
P58-060908D	VOCs	10000
P56-060908	VOCs	5
P73-061008	VOCs	100
P75-061008	VOCs	50
P66-061008	VOCs	10
P57-061108	VOCs	10000

# 11.0 Additional Qualifications

*Were additional qualifications applied?* 

No

# Analytical Report 305672

for

**URS Corporation-St. Louis** 

**Project Manager: Wendy Pennington** 

900 S. Central Avenue Route 111 & Rand Ave Vicinity / 21561979

24-JUN-08





E84880

4143 Greenbriar Dr., Stafford, TX 77477 Ph:(281) 240-4200 Fax:(281) 240-4280

Texas certification numbers: Houston, TX T104704215

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

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24-JUN-08



Project Manager: Wendy Pennington URS Corporation-St. Louis 1001 Highlands Plaza Drive West, Suite 300 St. Louis, MO 63110

Reference: XENCO Report No: 305672 900 S. Central Avenue Project Address: Roxana, Illinois 62084

#### Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 305672. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 305672 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Carlos Castro Managing Director, Texas

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# Sample Cross Reference 305672



# URS Corporation-St. Louis, St. Louis, MO

100 C

CARL CONTRACTOR

900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
P58-060908	W	Jun-09-08 14:25		305672-001
P58-060908D	W	Jun-09-08 14:25		305672-002
P56-060908	W	Jun-09-08 16:15		305672-003
P73-061008	W	Jun-10-08 09:43		305672-004
P75-061008	W	Jun-10-08 10:40		305672-005
P75-061008EB	W	Jun-10-08 11:25		305672-006
P66-061008	W	Jun-10-08 13:40		305672-007
P54-061008	W	Jun-10-08 16:12		305672-008
P57-061108	W	Jun-11-08 13:10		305672-009
TB061108	W	Jun-11-08 00:00		305672-010





Project Name: 900 S. Central Avenue

Project Id: Route 111 & Ra	nd Ave Vicinity /	-		201	Date	Receiv	ved in Lab:		09:50 am			
Contact: Wendy Pennington Project Location: Roxana, Illinois 62084					Report Date: 24-JUN-08 Project Manager: Debbie Simmons							
· · · · · · · · · · · · · · · · · · ·	Lab Id: Field Id:	305672-001 P58-060908		305672-002 P58-060908D		305672- P56-060		305672-004				
Analysis Requested	Depth:					130-000908		P73-061008				
	Matrix:	WATI	ER		WATER		WATE	ER	WATER	ι		
	Sampled:	Jun-09-08	3 14:25		Jun-09-08 14	4:25	Jun-09-08	16:15	Jun-10-08 0	9:43		
VOAs by SW-846 8260B	Extracted:	Jun-18-08	16:16		Jun-18-08 10	5:18	Jun-17-08	16:49	Jun-18-08 1	3:05		
, i i i i i i i i i i i i i i i i i i i	Analyzed:	Jun-18-08	18:38		Jun-18-08 19	9:00	Jun-17-08	17:33	Jun-18-08 1	4:03		
	Units/RL:	ug/L	RI		ug/L	RL	ug/L	RL	ug/L	RL.		
Acetone		Ð	10	00	ช	1000	U	100	U	100		
Benzene		349000 D	500		348000 D	50000	383 D	25.0	4000 D	500		
Bromobenzene		<u> </u>	-"iB	0.0	<u> </u>	រ្ <b>រី``</b> 50.0	U	5.00	U	5.00		
Bromochloromethane		ų	50	0.0		50.0	ບ	5.00	υ	5.00		
Bromodichloromethane		<u>4</u>	50	0.0	¥	50.0	υ	5.00	υ	5,00		
Bromoform		ų	50	0.0	<u> </u>	50.0	ប	5,00	υ	5.00		
Bromomethane		<u> </u>	50	0.0	ų į	50.0	U	5.00	υ	5.00		
2-Butanone		<u> </u>		00	ψ.	500	υ	50.0	U	50.0		
MTBE		¥		arreada		<b>WJ</b> 50.0	U	5.00	U	5.00		
n-Butylbenzene		18.9	~ <b>J</b> *50		21.2		9.40	5,00	25.5	5.00		
Sec-Butylbenzene			- "W]30			" <b>UJ</b> 0.0	U	5.00	19.9	5.00		
teri-Butylbenzene			<b>~J``</b> 50		42.5		U	5.00	47.8	5.00		
Carbon Disulfide		ų.	·WJ 'S	00	<u>ч</u> "t	<b>\$</b> 300	υ	50,0	U	50.0		
'arbon Tetrachloride		ψ	50	0.0	ų.	50.0	U	5.00	U	5.00		
.hlorobenzene		<u> </u>	50	).0	ψ	50.0	U	5.00	3.12 }	5.00		
Chloroethane		<u> </u>	1	00	Ų.	100	υ	10.0	U	10.0		
Chloroform		Ý	50	0.0	ų į	50.0	υ	5.00	U	5.00		
Chloromethane		Ŷ	1	00	Ϋ́	100	υ	10.0	Ŭ	10.0		
2-Chlorotoluene		Ý	50	0.0	Ϋ.	/ 50.0	U	5.00	υ	5.00		
4-Chlorotoluene		Ų.	50	0.0	ψų	J 30.0	U	5.00	U	5.00		
p-Cymene (p-Isopropyltoluene)		ψ̈́	50	0.0	11.8		4.15 J	5.00	12.4	5.00		
Dibromochloromethane		Ų	50	).0	Ų · V	<b>J</b> \$0.0	υ	5.00	υ	5.00		
1,2-Dibromo-3-Chloropropane		ų	50	).0	ψ	50,0	υ	5.00	υ	5.00		
1,2-Dibromoethane		Ч	50	0,0	b	50.0	υ	5.00	υ	5.00		
Dibromomethane		ų	50	0.0	Ų	50.0	U	5.00	U	5.00		
1,2-Dichlorobenzenc		Ŭ	50	0.0	U	50.0	υ	5.00	U	5.00		
1,3-Dichlorobenzene		ų	<b>↓</b> 50		Ų I	50.0	υ	5.00	U	5.00		
1,4-Dichlorobenzene			~ <b>~J</b> \$0			<b>J</b> 50.0	U	5.00	υ	5.00		
Dichlorodifluoromethane			<b>~`T`</b> 50		122		υ	5.00	U	5.00		
1,1-Dichloroethane		ψ,	"UJ 30	0.0	ψ·ι	J 30.0	U	5.00	υ	5.00		
1,2-Dichloroethane		ψ	50		Ų ·	50.0	U	5.00	U	5.00		
1,1-Dichloroethene		Ŷ	50	- 1	ψ	50,0	υ	5.00	U	5.00		
cis-1,2-Dichloroethene		ţ	<b>¥</b> 50		ų e	50.0	υ	5.00	υ	5.00		
trans-1,2-dichioroethene		<b>f</b> .	"UJ 30	0.0	ų., h	<b>j`</b> ʻ50.0	U	5.00	υ	5.00		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Carlos A. Castro, Ph.D., MBA

Managing Director, Texas

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Project Name: 900 S. Central Avenue

Project Id: Route 111 & Ra	and Ave Vicinity /	2156197		Date	e Receiv	ved in Lab:	Jun-12-0	8 09:50 am	
Contact: Wendy Pennington					Re	port Date:	24-JUN-	38	
Project Location: Roxana, Illinois	62084			1	Project	Manager:	Debbie Simmons		
	Lab Id:	305672-0	100	305672-0	02	305672-	-003	305672-004	
Analysis Requested	Field Id:	P58-060908		P58-06090	8D	P56-060	908	P73-061008	
	Depth:								
	Matrix:		WATER		2	WATI	ER	WATE	R
	Sampled:	Jun-09-08	4:25	Jun-09-08 1	4:25	Jun-09-08	16:15	Jun-10-08 (	)9:43
VOAs by SW-846 8260B	Extracted:	Jun-18-08	6:16	Jun-18-08 I	6:18	Jun-17-08	16:49	Jun-18-08	3:05
	Analyzed:	Jun-18-08	8:38	Jun-18-08 1	9:00	Jun-17-08	17:33	Jun-18-08	4:03
	Units/RL:	ug/L	RL	ug/L	RL	ug/L	RL.	ug/L	RL
1,2-Dichloropropane		Ų-	WJ 30.0	4-,	<b>u I</b> 50.0	U	5,00	U	5.00
1,3-Dichloropropane		þ	50.0	ų	50,0	U	5.00	υ	5.00
2,2-Dichloropropane		۲.	50.0	ų	50.0	υ	5.00	U	5.00
1,1-Dichloropropene		ų	50.0	ų	50.0	U	5.00	U	5.00
cis-1,3-Dichloropropene		ų	50.0	ų v	<b>5</b> 50.0	U	5.00	U	5.00
trans-1,3-dichloropropene			<b>UJ 3</b> 0.0		<b>Ŋ"</b> 50.0	υ	5.00	U	5.00
Ethylbenzene	······		J		<b>]*</b> 50.0	1670 D	100	890 D	50,0
Hexachlorobutadiene			WJ50.0		<b>J 3</b> 0.0	υ	5.00	U	5.00
2-Hexanone			<b>WJ 300</b>		<b>w</b> 500	U	50.0	U	50.0
isopropylbenzene			<b>J *</b> 50,0		<b>J `</b> 50.0	61.1	5.00	49.7	5.00
Methylene Chloride			<b>W</b> 30.0		J 30.0	υ	5.00	υ	5.00
4-Methyl-2-Pentanone		<u>.</u>	<b>4J'300</b>		J 300	υ	50.0	U	50.0
Naphthalene		179 *	<b>T</b> " 100	202 <b>``J ``</b> 100		180 D	50.0	145	10.0
Propylbenzene			<b>J.</b> ° 50.0	124 <b>° J °</b> 50.0		86.9	5.00	80.9	5.00
Jyrene		<u>ψ.</u>	<b>W</b> 50.0	עייע	<b>J"</b> 50.0	U	5.00	บ	5.00
1,1,1,2-Tetrachloroethane		Į	50.0	<u> </u>	50.0	υ	5.00	U	5.00
1,1,2,2-Tetrachloroethane		<u> </u>	\$ 50.0	ψ.	50.0	υ	5.00	υ	5.00
Tetrachloroethylene			<b>J</b> 50.0		J 30.0	U	5.00	υ	5.00
Toluene			<b>J</b> 50.0		* 50.0	490 D	25.0	1370 D	50.0
1,2,3-Trichlorobenzene			<b>£3</b> 30.0	ייע	<b>J</b> \$0.0	υ	5.00	U	5.00
1,2,4-Trichlorobenzene			50.0		50.0	U	5.00	U	5.00
1,1,1-Trichloroethane		<u> </u>	50.0		50.0	U	5.00	υ	5.00
1,1,2-Trichloroethane		<u> </u>	50.0	U U	50.0	U	5.00	U	5.00
Trichloroethene		<u> </u>	50.0	¥	50.0	· U	5.00	U	5.00
Trichlorofluoromethane		I'	50.0		50.0	U	5.00	U	5.00
1,2,3-Trichloropropane		· · · · ·	1 50.0		<b>4 ]</b> 50.0	U	5.00	υ	5,00
1,2,4-Trimethylbenzene			<b>5</b> 2	820		388 D	25.0	596 D	50.0
1,3,5-Trimethylbenzene			<b>J-</b> 50.0	129 <b>``J``</b> 50.0		93.7	5.00	137	5.00
o-Xylene			<b>J' '</b> 50,0	168*		233 D	25.0	520 D	50.0
m,p-Xylenes			J ** 100	805 ** 7		2220 D	200	1760 D	100
Vinyl Chloride		ઝગ	J 20.0	J" V.	J 20.0	U	2.00	υ	2.00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Carlos A. Castro, P.D., MBA

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Project Name: 900 S. Central Avenue

Project Id: Route 111 & R	and Ave Vicinity /	2156197	ic. 900		Receiv	ed in Lab:	Jun-12-6	08 09:50 am	
Contact: Wendy Pennin	gton				Rej	port Date:	24-JUN	-08	
Project Location: Roxana, Illinoi	s 62084			F	Project	Simmons			
	305672-00	)5	305672-00	)6	305672-0	007	305672-008		
Analysis Requested	Field Id:	₽75-06100	8	P75-061008	EB	P66-0610	908	P54-0610	108
	Depth:								ŀ
	Matrix:	WATER		WATER		WATE	R	WATE	R
Sampled:		Jun-10-08 10	):40	Jun-10-08 11	1:25	Jun-10-08	13:40	Jun-10-08 1	16:12
VOAs by SW-846 8260B	Extracted:	Jun-18-08 14	4:34	Jun-16-08 13	3:20	Jun-18-08	11:03	Jun-16-08 1	2:27
TOAS NJ DITIONO ODOUD	Analyzed:	Jun-18-08 1	5:08	Jun-16-08 14	4:14	Jun-18-08	12:37	Jun-16-08 1	2:47
	Units/RL:	ug/L	RL	ug/L	RL.	ug/L	RL	ug/L	RL
Acetone		U	200	U	100	U	100	U	100
Benzene		3620 D	250	(12.5)	5.00	659 D	50.0	ND0.06.2901	u"-5.00
Bromobenzene		υ	10.0	υ	5,00	U	5.00		5.00
Bromochloromethane		U	10.0	U	5.00	U	5.00	υ	5.00
Bromodichloromethane		υ	10.0	U	5.00	U	5.00	U	5.00
Bromoform	Í	υ	10.0	U	5.00	U	5.00	υ	5.00
Bromonsethane		υ	10.0	U	5.00	U	5.00	υ	5.00
2-Butanone		υ	100	υ	50.0	U	50.0	U	50.0
MTBE		125	10.0	U	5.00	U	5.00	υ	5,00
n-Butylbenzene		26.8	10.0	(1.17 J	5.00	17.5	5.00	υ	5.00
Sec-Butylbenzene		24.1	10.0	U	5,00	19.6	5.00	υ	5.00
lert-Butylbenzene		4.96 J	10.0	U	5.00	5.96	5.00	U	5.00
Carbon Disulfide		υ	100	U	50,0	υ	50.0	U	50.0
Parbon Tetrachloride		υ	10.0	υ	5.00	υ	5.00	U	5.00
nlorobenzene		U	10.0	U	5.00	U	5.00	υ	5.00
Chloroethane	1	U	20.0	υ	10.0	υ	10.0	υ	10.0
Chloroform	İ	U	10.0	υ	5.00	U	5.00	U	5.00
Chloromethanc		υ	20.0	U	10,0	U	10.0	υ	10.0
2-Chlorotoluenc		U	10.0	U	5.00	U	5.00	U	5.00
4-Chlorotoluenc		υ	10.0	υ	5.00	υ	5.00	υ	5.00
p-Cymene (p-Isopropyltoluene)		3.98 J	10.0	υ	5.00	4.45 J	5.00	Ŭ	5.00
Dibromochloromethane		υ	10.0	U	5.00	U	5.00	U	5,00
1,2-Dibromo-3-Chloropropane		υ	10.0	U	5,00	U	5.00	U	5.00
I,2-Dibromoethane		υ	10.0	ប	5.00	υ	5.00	υ	5.00
Dibromomethane		υ	10.0	ΰ	5.00	U	5.00	U	5.00
1,2-Dichlorobenzene		U	10.0	υ	5.00	υ	5.00	U	5.00
1,3-Dichlorobenzene		υ	10.0	υ	5.00	υ	5.00	ប	5.00
,4-Dichlorobenzene		U	10.0	U	5.00	U	5.00	υ	5.00
Dichlorodifluoromethane		υ	10.0	U	5.00	V	5.00	U	5.00
,1-Dichloroethane		U	10.0	U	5.00	υ	5.00	υ	5.00
,2-Dichloroethane		U	10.0	υ	5.00	U	5.00	U	5.00
1,1-Dichloroethene		U	10.0	υ	5.00	U	5.00	U	5.00
cis-1,2-Dichloroethene		U	10.0	U	5.00	U	5.00	U	5.00
rans-1,2-dichloroethene		υ	10.0	U	5.00	υ	5.00	υ	5.00

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Since 1990

Carlos A. Castro, P.D., MBA

Houston - Dalłas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi Ca

Managing Director, Texas





#### Project Name: 900 S. Central Avenue

Project Id: Route 111 & Rand				Date		ved in Lab:	Jun-12-	08 09:50 am	
Contact: Wendy Pennington					Re	eport Date:	24-JUN	-08	
Project Location: Roxana, Illinois 620	)84			P	rojec	t Manager:	Debbie	Simmons	
	Lab Id:	305672-0	05	305672-00	305672-006		305672-007		008
Analysis Requested	Field Id:	P75-06100	08	P75-061008EB		P66-061	800	P54-0610	208
	Depth:								
	Matrix:	WATER	<b>L</b>	WATER	WATER		R	WATE	R
	Sampled:	Jun-10-08 1	0:40	Jun-10-08 11	:25	Jun-10-08	13:40	Jun-10-08	16:12
VOAs by SW-846 8260B	Extracted:	Jun-18-08 J	4:34	Jun-16-08 13	:20	Jun-18-08	11:03	Jun-16-08	12:27
	Analyzed:	Jun-18-08 1	5:08	Jun-16-08 14	:14	Jun-18-08	12:37	Jun-16-08	12:47
	Units/RL:	ug/L	RL	ug/L	RL	ug/L	RL	ug/L	RL.
1,2-Dichloropropane		υ	10.0	U	5.00	υ	5.00	U	5.00
1,3-Dichloropropane		υ	10.0	υ	5.00	U	5,00	U	5.00
2,2-Dichloropropane		U	10.0	υ	5.00	υ	5.00	υ	5,00
1,1-Dichloropropene		U	10.0	υ	5.00	U	5.00	υ	5.00
cis-1,3-Dichloropropene		υ	10.0	U	5.00	U	5.00	υ	5.00
trans-1,3-dichloropropene		υ	10.0	Ŭ	5.00	U	5.00	U	5.00
Ethylbenzene		83.6	10.0	(3.79 J	5.00	288 D	50,0	uD0.0-1-01-je	"4 <sup>#</sup> 5.00
Hexachlorobutadiene		U	10,0	U	5.00	U	5.00	υ	5.00
2-Hexanone		U	100	U	50,0	υ	50.0	υ	50.0
isopropylbenzene		126	10.0	(1.10]	5,00	91.5	5.00	-#	5.00
Methylene Chloride		U	10.0	(1.64 JB)	5.00	υ	5,00	NO:02:07 JB	"U"5.00
4-Mcthyl-2-Pentanone		U	100	<u> </u>	50.0	U	50.0	υ	50.0
Naphthalene		162	20.0	4.821	10.0	75.5	10.0	U	10.0
-Propylbenzene		60.7	10.0	(2.04J)	5,00	114	5.00	U	5.00
утеле		υ	10.0	U	5.00	υ	5.00	Ŭ	5,00
1,1,1,2-Tetrachloroethane		U	10.0	υ	5.00	υ	5.00	υ	5.00
1,1,2,2-Tetrachloroethane		U	10.0	νU	5.00	υ	5.00	υ	5,00
Tetrachloroethylene		υ	10.0	υ	5.00	υ	5.00	υ	5.00
Toluene		46.4	10.0	υ	5.00	1.67 J	5.00	U	5.00
1,2,3-Trichlorobenzene		U	10,0	U	5.00	ប	5.00	υ	5.00
1,2,4-Trichlorobenzene		V	10.0	υ	5,00	U	5.00	υ	5.00
1,1,1-Trichloroethane		υ	10.0	υ	5.00	υ	5.00	υ	5.00
1,1,2-Trichloroethane		ប	10.0	U	5.00	U	5.00	U	5.00
Trichloroethene		U	10.0	υ	5.00	U	5.00	U	5.00
Trichlorofluoromethane		υ	10.0	υ	5.00	υ	5.00	υ	5.00
1,2,3-Trichloropropane		υ	10,0	U	5.00	υ	5.00	U	5.00
1,2,4-Trimethylbenzene		UD 0.0-38-20 'Y			5.00	90.3	5.00	vDO.02.945 "	<b>* '</b> 5.00
1,3,5-Trimethylbenzene		ND 0.0 +0.8 U	10.00		5.00	N& 0 20 - 5.6944	U'S 29	υ	5.00
o-Xylene	٨	0 0.0 <del>6.74 1</del>	0.01 <b>" م</b>	(1.96)	5.00	U	5.00	U	5.00
m,p-Xylenes	~	0 0.0 34-3 <sup>9</sup> U	-20.0	WS (10.9)	10.0	100,0-3-87-1 <sup>0</sup> 4	<b>U</b> # 10.0	U	10.0
Vinyl Chloride		U	4.00	U	2.00	U	2,00	U	2.00

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Carlos A. Castro, Ph.D., MBA

Managing Director, Texas

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Project Name: 900 S. Central Avenue

Project Id: Route 111 & Rand		2156197	ic. 901			ed in Lab:	Inn-12-	08 09:50 am
Contact: Wendy Pennington				Dan		port Date:	24-JUN	
Project Location: Roxana, Illinois 6			1	-	Manager:		Simmons	
	Lab Id:	305672-00	19	305672-0				1
Analysis Requested	Field Id:	P57-06110		TB06110				
Analysis Requested	Depth:	131 00110	· •	1.500110				
	Matrix:	WATER		WATER				
	Sampled:	Jun-11-08 13	1	Jun-11-08 00	1			
	Extracted:	Jun-18-08 10		Jun-16-08 1				
VOAs by SW-846 8260B	Analyzed:	Jun-18-08 18	1	Jun-16-08 14				
	Units/RL:		RL	ug/L	*:55 RL			
Acetone	Omis/iL.	ug/L U	1000	ະ ບັ	100		··· · · · ·	
Benzene		257000 D	50000	ບ 	5.00		·	
Bromobenzene		U	50.0	ບ 	5.00			
Bromochloromethane		<u>บ</u>	50.0	ບ 	5.00			
Bromodichloromethane		U	50.0	ບ 	5.00			
Bromoform			50.0	ບ 	5.00			
Bromomethane		ບ	50.0	U	5.00	······································		
2-Butanone		U	500	ບ	50,0			
MTBE			50.0	υ	5.00			
n-Butylbenzene		υ	50.0	<u></u> U	5.00			
Scc-Butylbenzene		U	50.0	υ	5.00			1
tert-Butylbenzene			50.0	υ	5.00			
Carbon Disulfide		<u>0</u>	500	ບ	50.0			
Parbon Tetrachloride		ບ	50.0	ບ	5.00		<u></u>	 
alorobenzene		U	50.0	Ŭ	5.00			
Chloroethane			100	U	10.0			
Chloroform		Ŭ	50.0	U	5.00			
Chloromethane	·····	U	100	U	10.0			
2-Chlorotoluene		 ປ	50.0	U	5.00			
4-Chlorotoluene		υ	50.0	U	5.00			
p-Cymene (p-Isopropyltoluene)		υ	50,0	 ບ	5.00			
Dibromochloromethane			50,0	ບ	5.00			
1,2-Dibromo-3-Chloropropane		υ	50.0	υ	5.00			
1,2-Dibromoethane		υ	50.0	υ	5.00			
Dibromomethane		U	50.0	υ	5.00		· · · · · · ·	
1,2-Dichlorobenzene		U	50.0	υ	5.00			
1,3-Dichlorobenzene	}	υ	50.0	U	5.00			
1,4-Dichlorobenzene		U	50.0	U	5.00			······
Dichlorodifluoromethane		127 "3	50.0	υ	5.00			
1,1-Dichloroethane	·····	υ	50.0	υ	5.00			
1,2-Dichloroethane		U	50.0	ប	5.00			
1,1-Dichloroethene		υ	50.0	U	5.00			
cis-1,2-Dichloroethene		υ	50.0	υ	5.00			
trans-1,2-dichloroethene		υ	50.0	U	5.00			

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Managing Director, Texas





Project Name: 900 S. Central Avenue

Project Id: Route 111 & Rand Ave Vicinity / 2156195					Date Received in Lab:			Jun-12-08 09:50 am	
Contact: Wendy Pennington	Report Date:			24-JUN-08					
Project Location: Roxana, Illinois 620	Roxana, Illinois 62084			Project Manager:			Debbie	Simmons	
	Lab Id:	305672-00	)9	305672-01	0				
Analysis Requested	Field Id:	P57-06110	8	TB061108	:				
· ····································	Depth:								
	Matrix:	WATER	.	WATER					
	Sampled:	Jun-11-08 13	3:10	Jun-11-08 00	00:00				
VOAs by SW-846 8260B	Extracted:	Jun-18-08 16	5:14	Jun-16-08 13	3:22				
VOAS by 511-040 02000	Analyzed:	Jun-18-08 18	8:16	Jun-16-08 14	1:35				
	Units/RL:	ug/L	RL	ug/L	RL				
1,2-Dichloropropane		υ	50.0	U	5.00				
1,3-Dichloropropane		U	50.0	U	5.00				
2,2-Dichloropropane		υ	50.0	U	5.00				
1,1-Dichloropropene		U	50.0	υ	5,00				
cis-1,3-Dichloropropene		U	50.0	U	5,00				
trans-1,3-dichloropropene		U	50,0	U	5.00	,			
Ethylbenzene		624	50.0	υ	5.00				
Hexachlorobutadiene		U	50.0	U	5.00				
2-Hexanone		U	500	U	50.0				
isopropylbenzene		18.3 J	50.0	υ	5.00				
Methylene Chloride		U	50.0	2.39 JB	5.00				
4-Methyl-2-Pentanone		U	500	U	50.0				
Naphthalene		65.0 J	100	U	10.0				
opylbenzene		17.1 3	50.0	U	5.00				
yrene		<u> </u>	50.0	U	5.00				
1,1,1,2-Tetrachloroethane		U	50.0	U	5.00				
1,1,2,2-Tetrachloroethane		U	50.0	υ	5.00			·····	
Tetrachioroethylene		U	50.0	U	5.00				
Toluene		133	50.0	U	5.00				
1,2,3-Trichlorobenzene		U	50.0	U	5.00				
1,2,4-Trichlorobenzene		U	50.0	U	5.00				
1,1,1-Trichloroethane		U	50.0	U	5.00				
1,1,2-Trichloroethane		U	50.0	υ	5.00				
Trichloroethene		υ	50,0	υ	5.00				
Trichlorofluoromethane		υ	50.0	U	5.00				
1,2,3-Trichloropropane		U	50.0	U	5.00				
1,2,4-Trimethylbenzene		106	50.0	U	5.00				
1,3,5-Trimethylbenzene		28.5 J	50.0	U	5.00				
o-Xylene		117	50.0	U	5.00				
m,p-Xylenes		760	100	U	10.0				
Vinyl Chloride		U	20.0	U	2.00				

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x0X KK P Carlos A. Castro, P.D., MBA

Managing Director, Texas

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- k. The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

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P75-061008	1	1040	WATER	X			3	$\mathbf{x}$		-	+ +	-+		+					-	<u> </u>	+	214				
P75 DUIDOZEB		1125	WATER	X		┉┼┉┈┍╋┉	3	x			+ +	-+		1					+	┢╼╍╉╼	-+-	<u> </u>				
P66-061008		1340	WATER	×			3	×				-	+-				-		+	┝━┿╸		26,1				
P54-061008MS		1340	12 WATER	X			3	X						-			-				-+-	aw, 1				
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05/2/08 Revision

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ST. LOUIS, MISSOURI 63110	HART	FORD, ILLINOI	S 62048				<u> </u>	VENDY	PENI E(S) (Pres	NINGT	ÓN								Route	<u>.111 (</u>	& Rand A	ve Vic	nity / 2150	1979		
TELEPHONE:         FAX:           OFF: 314-743-4156         FAX:           CELL: 314-452-8929         CELL: 314-452-8	186 829		ennington	@urscorp	<u>com</u>		1	ω.	Per	nni	100	bin	1		R III	110						2 ()	s6	7-2	ې بې بې	4
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TEMPERATURE ON RECEIPT C. Cooler #1	Cooler #2		Cooler #3			· · · · ·	1															4				
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Please include "J" values on Level 2 Reports			SHELL	CONTRACT :	RATE APPLIES	5			ł																	
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Prelogin/Nonconformance Report- Sample Log-In

Client:

Date/ Time:

Lab ID # :

Initials:

# Sample Receipt Checklist

r		-			
#1	Temperature of container/ cooler?	Nos.)	No	N/A	12.5°c
#2	Shipping container in good condition?	Ves	No	None	
#3	Samples received on ice?	Nes	D No	N/A	Blue/Water
#4	Custody Seals intact on shipping container/ cooler?	Nes	No	N/A	
#5	Custody Seals intact on sample bottles/ container?	Yes	No	NA	
#6	Chain of Custody present?	(Yes)	No		
#7	Sample instructions complete of Chain of Custody?	(es	No		
#8	Any missing/extra samples?	Yes	(No)		
#9	Chain of Custody signed when relinquished/ received?	Kes	No		
#10	Chain of Custody agrees with sample label(s)?	Yes)	No	······	
#11	Container label(s) legible and intact?	Yes	No		
-	Sample matrix/ properties agree with Chain of Custody?	Yes)	No	•••••	
#13 <sup>-</sup>	Samples in proper container/ bottle?	Xes	No		
#14	Samples properly preserved?	(Yes)	No	N/A	
#15	Sample container intact?	Yes)	No		
#16	Sufficient sample amount for indicated test(s)?	Nes	No		
	All samples received within sufficient hold time?	Yes	No		
	Subcontract of sample(s)?	Yes	No	N/A	
*********	VOC samples have zero headspace?	Yes)	No	N/A	
				• • • / * • •	

# Nonconformance Documentation

Contact:		Contacted by:	Date/ <u>Time:</u>
Regarding:			
Corrective Action Take	ר:		
Check all that Apply:		Client understands and would like to proceed with analy Cooling process had begun shortly after sampling even	/sis t



# **Rand Avenue Data Review**

Laboratory SDG: 305871

**Reviewer: Tony Sedlacek** 

Date Reviewed: 7/22/2008

Guidance: National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: Route 111/Rand Avenue Vicinity Investigation Work Plan.

Sample Identification #	Sample Identification #
B1-061208	B2-061208
B2-061208D	B3-061208
B4-061208	B5-061308
B6-061308	B6-061308EB
TB061308	

#### 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?* 

No, although not indicated in the laboratory case narrative, VOCs were detected in the trip blank, equipment blank and method blank. VOC MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria. Samples were diluted due to high levels of target analytes. In addition, samples were evaluated and qualified using professional judgment. 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?

Yes

Blank ID	Parameter	Analyte	Concentration	Units
511007-1-BLK	VOCs	Methylene chloride	2.92	μg/L
511068-1-BLK	VOCs	Methylene chloride	2.48	μg/L
511068-1-BLK	VOCs	Toluene	1.46	µg/L
B6-061308EB	VOCs	Methylene chloride	1.67	µg/L
TB061308	VOCs	Methylene chloride	5.77	µg/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.

Field ID	Parameter	Analyte	New RL	Qualification
B1-061208	VOCs	Methylene chloride	-	υ
B4-061208	VOCs	Methylene chloride	-	U
B5-061308	VOCs	Methylene chloride	5.18	U
B6-061308	VOCs	Methylene chloride	-	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. Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
N/A			

### 6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrog	ate	Recovery	Criteria
N/A		State of the second			

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

Field ID	Parameter	Ar	nalyte	Qualification
N/A				

#### 7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, samples B1-061208 and B3-061208 were spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
B1-061208	VOCs	Bromomethane	63/46	31	70-130/20
B1-061208	VOCs	2-Butanone	74/6	170	60-140/20
B1-061208	VOCs	Chloroethane	69/53	26	70-130/20
B1-061208	VOCs	Chloromethane	63/58	8	70-130/20
B1-061208	VOCs	Vinyl Chloride	65/57	13	75-125/20
B3-061208	VOCs	Acetone	36/40	11	40-160/21
B3-061208	VOCs	Bromomethane	66/75	13	70-130/20
B3-061208	VOCs	2-Butanone	56/61	9	60-140/20
B3-061208	VOCs	Vinyl Chloride	70/68	3	75-125/20

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

## 8.0 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	Since Since
N/A	an eiline a co-coloring a comparison			1

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

Field ID	Parameter	Analyte	Qualification
N/A			

#### 9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
B2-061208	B2-061208D

Were field duplicates within evaluation criteria?

Yes

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

# 10.0 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
B2-061208	VOCs	50
B2-061208D	VOCs	50

### 11.0 Additional Qualifications

Were additional qualifications applied?

Yes

Professional judgment was used to qualify the common laboratory contaminant methylene chloride reported at concentrations less than two times (2X) the RL.

Field ID	Analyte	New RL	Qualification	Comments
B2-061208	Methylene chloride	42.2	U	Professional Judgment
B2-061208D	Methylene chloride	47.2	U	Professional Judgment

# Analytical Report 305871

for

# **URS Corporation-St. Louis**

**Project Manager: Wendy Pennington** 

900 S. Central Avenue Route 111 & Rand Ave Vicinity / 21561979

26-JUN-08





E84880

4143 Greenbriar Dr., Stafford, TX 77477 Ph:(281) 240-4200 Fax:(281) 240-4280

Texas certification numbers: Houston, TX T104704215

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta Page 1 of 37



26-JUN-08



Project Manager: Wendy Pennington URS Corporation-St. Louis 1001 Highlands Plaza Drive West, Suite 300 St. Louis, MO 63110

Reference: XENCO Report No: 305871 900 S. Central Avenue Project Address: Roxana, Illinois 62084

#### Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 305871. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 305871 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Carlos Castro Managing Director, Texas

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



# Sample Cross Reference 305871



# URS Corporation-St. Louis, St. Louis, MO

900 S. Central Avenue

Sample Id	Matr	ix Date Collected	Sample Depth	Lab Sample Id
B1-061208	W	Jun-12-08 10:45		305871-001
B2-061208	W	Jun-12-08 12:45		305871-002
B2-061208D	W	Jun-12-08 12:45		305871-003
B3-061208	W	Jun-12-08 15:00		305871-004
B4-061208	W	Jun-12-08 16:30		305871-005
B5-061308	W	Jun-13-08 10:05		305871-006
B6-061308	W	Jun-13-08 12:00		305871-007
B6-061308EB	W	Jun-13-08 13:30		305871-008
TB061308	~ W	Jun-13-08 00:00		305871-009





	'n	A			,				
Project Id: Route 111 & R			ie: 900	S. Centra			Jun 14 0	8 09:51 am	
Contact: Wendy Pennin	•	2150197		Dan			26-JUN-(		
Project Location: Roxana, Illinoi	0						Debbie S		
	······································	200001 0							
An atomic Descented	Lab Id:	305871-001		305871-0	)	305871-0		305871-0	
Analysis Requested	Field Id:	B1-06120	8	B2-06120	8	B2-06120	180	B3-0612	38
	Depth:	×4	-	×.			<u> </u>	Ť	
	Matrix:	WAINS	0.40	WATER	-	WATE		WATE	
	Extracted:	Jun-12-08 1 Jun-17-08 1		Jun-12-08 1		Jun-12-08		Jun-12-08	
VOAs by SW-846 8260B	Analyzed:	Jun-17-08 1		Jun-19-08 1		Jun-19-08		Jun-20-08 1	
	Units/RL:			Jun-19-08 1		Jun-19-08		Jun-20-08 1	
Acetone	Children Chi	ug/L U	RL 100	ug/L. U	RL	ug/L	RL	ug/L	RL
Benzene		1.01 J	5.00	1100 D	500 250	U 1120 D	500	U	100
Bromobenzene		U.011	5.00	U 010	25.0		250	1.59 J U	5.00
Bromochloromethane		U	5,00	<u></u>	25.0	U	25.0	ບ ບ	5.00
Bromodichloromethane		υ	5.00		25.0	υ	25.0	<u> </u>	5.00
Bromoform		υ	5.00	ບ	25.0	ບ ບ	25.0	ບ	5.00
Bromomethane			5.00	υ	25.0	U	25.0	U	5.00
2-Butanone		U	50.0	<u>u</u>	250	Ū	25.0	U	50.0
MTBE		4.38 J	5.00	ບ	25.0	ບ	25.0	υ υ	5.00
n-Butylbenzene	·····	U	5.00	υ	25.0	ບ	25.0	2.69 J	5.00
Sec-Butylbenzene		ບ	5.00	<u>.</u>	25,0	υ	25.0	2.29 J	5,00
teri-Butylbenzene		 ບ	5.00	Ŭ	25.0	U	25.0	2.16 J	5.00
Carbon Disulfide		U	50.0	U	250	Ŭ	250	U	50.0
'arbon Tetrachloride		υ	5.00	υ	25.0	<u>-</u> U	25,0	U	5.00
hlorobenzene		U	5,00	U	25.0	U	25.0	U	5.00
Chloroethane		U	10.0	υ	50.0	υ	50.0	U	10.0
Chloroform		υ	5.00	υ	25.0	U	25.0	U	5.00
Chloromethane		υ	10.0	U	50.0	U	50.0	U.,	
2-Chlorotoluene		υ	5.00	U	25.0	U	25.0	υ	5.00
4-Chlorotoluene		U	5.00	υ	25.0	U	25.0	υ	5.00
p-Cymene (p-Isopropyltoluene)		U	5.00	υ	25.0	U	25.0	U	5.00
Dibromochloromethane		υ	5.00	U	25.0	U	25.0	υ	5.00
1,2-Dibromo-3-Chloropropane		υ	5.00	υ	25.0	U	25.0	U	5.00
1,2-Dibromoethane		υ	5.00	U	25.0	U	25.0	U	5.00
Dibromomethane		U	5.00	υ	25.0	U	25.0	υ	5.00
1,2-Dichlorobenzene		υ	5.00	υ	25.0	U	25.0	υ	5.00
1,3-Dichlorobenzene		υ	5.00	υ	25.0	U	25.0	U	5.00
1,4-Dichlorobenzene		υ	5.00	U	25.0	υ	25.0	U	5.00
Dichlorodifluoromethane		البقمر	<b>\$</b> .00	اببهجلر	<b>£]</b> 25.0	U	25.0	υ	5.00
1,1-Dichloroethane		U	5.00	υ	25.0	υ	25.0	υ	5.00
1,2-Dichloroethane		υ	5.00	U	25.0	U	25.0	υ	5.00
1,1-Dichloroethene		υ	5.00	Ŭ	25.0	υ	25.0	U	5.00
cis-1,2-Dichloroethene		U	5.00	U	25.0	U	25.0	υ	5.00
trans-1,2-dichloroethene		υ	5.00	υ	25.0	υ	25.0	U	5.00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XEINCO Laboratories XEINCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

jalidate.

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Carlos A. Castro, Ph.D., MBA Managing Director, Texas





-14-08 09:51 am RUN-08 obie Simmons 305871-004 B3-061208
RJN-08 obie Simmons 305871-004
305871-004
305871-004
53-001208
337.6 2020
WATER
5 Jun-12-08 15:00 8 Jun-20-08 11:30
8 Jun-20-08 11:30 9 Jun-20-08 12:04
25.0 U 5. 25.0 U 5.
25.0 U 5.
25.0 U 5.
25.0 U 5.
250 7.97 5.
25.0 U 5.
250 U 50
25.0 29.5 5.
25 0 U S.
250 Jan 250 50
50.0 U 10
25.0 54.9 5.
25.0 U 5.
25.0 U 5.
25.0 U 5.
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250 50.1 5.0
25.0 U 5.0
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250 U 5.(
25.0 U 5.0
250 7.00 5.0
500 89.4 10
10,0 U 2.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Carlos A. Castro, Ph.D., MBA

Managing Director, Texas

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi





Project Name: 900 S. Central Avenue

Project Id: R	oute 111 & Rand Ave Vicinity	/ 2156197	10. 90			ed in Lab:	Jun-14-0	8 09:51 am	
Contact: W	endy Pennington				Re	port Date:	26-JUN	08	
Project Location: R	oxana, Illinois 62084				Project	Manager:	Debbie S	Simmons	
	Lab Id:	305871-0	05	305871-006		305871-	-007	305871-008	
Analysis Requ	ested Field Id:	B4-06120	B4-061208 B5-06		08	B6-061	308	B6-0613	08EB
	Depth:								
	Matrix:	WATEF	۲.	WATE	R	WATI	ER	WATI	ER
	Sampled		6:30	Jun-13-08	10:05	Jun-13-08	12:00	Jun-13-08	13:30
VOAs by SW-846 8260	B Extracted:	Jun-17-08 1	2:06	Jun-17-08	12:08	Jun-17-08	14:28	Jun-17-08	14:30
VOAS DY 511-040 0200	Analyzed:	Jun-17-08 1	4:20	Jun-17-08	14:42	Jun-17-08	15:03	Jun-17-08	15:25
	Units/RL:	ug/L	RL	ug/L	RL	ug/L	RL	ug/L	RL
Acetone		U	100	U	100	υ	100	υ	100
Benzene		U	5.00	33.8	5,00	U	5.00	U	5.00
Bromobenzene		υ	5.00	U	5.00	U	5.00	U	5.00
Bromochloromethane		U	5.00	U	5.00	U	5.00	U	5.00
Bromodichloromethane		υ	5.00	υ	5.00	U	5.00	υ	5.00
Bromoform		υ	5.00	υ	5.00	U	5.00	υ	5.00
Bromomethane		U	5.00	U	5,00	U	5,00	U	5.00
2-Butanone	~~	υ	50.0	υ	50.0	U	50.0	υ	50.0
мтве		U	5.00	υ	5.00	1.04 J	5.00	U	5.00
n-Butylbenzene		U	5,00	U	5.00	U	5.00	U	5.00
Sec-Butylbenzene		U	5.00	U	5.00	υ	5.00	U	5.00
tert-Butylbenzene		U	5.00	1.72 J	5.00	U	5.00	U	5.00
Carbon Disulfide	s 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	U	50.0	U	50.0	υ	50,0	U	50.0
on Tetrachloride	·····	U	5.00	U	5.00	U	5.00	υ	5.00
.orobenzene		U	5,00	U	5.00	U	5.00	U	5,00
Chloroethane		U	10.0	<u> </u>	10.0	U	10.0	U	10.0
Chloroform		U	5.00	U	5.00	U	5,00	U	5.00
Chloromethane		U	10.0	<u> </u>	10.0	U	10.0	U	10.0
2-Chlorotoluene		U	5.00	<u>υ</u>	5.00	UU	5.00	U	5.00
4-Chlorotoluene	· · · · · · · · · · · · · · · · · · ·	υ	5,00	υ	5.00	U	5.00	U	5.00
p-Cymene (p-Isopropyltoluene)		U	5.00	U	5.00	U	5.00	υ	5.00
Dibromochloromethane		U	5.00	<u> </u>	5.00	U	5.00	<u> </u>	5.00
1,2-Dibromo-3-Chloropropane		U	5.00	U	5.00	<u> </u>	5.00	U	5.00
1,2-Dibromoethane		U	5,00	U	5,00	U	5.00	U	5.00
Dibromomethane		<u> </u>	5.00	<u> </u>	5.00	<u> </u>	5.00	<u> </u>	5.00
1,2-Dichlorobenzene		U	5.00	U	5.00	U	5.00	<u> </u>	5.00
1,3-Dichlorobenzene		U	5.00	U	5.00	U	5.00	U	5.00
1,4-Dichlorobenzene		U	5.00	<u>ບ</u>	5.00	U	5.00	υ 	5.00
Dichlorodifluoromethane		U	5.00	U	5.00	<u> </u>	5.00	U	5.00
1,1-Dichloroethane		U V	5.00	U	5,00	U 	5.00	U	5.00
1,2-Dichloroethane		U	5.00	U	5.00	<u> </u>	5.00	U	5.00
1,1-Dichloroethene		U U	5.00	U	5.00	U	5.00	<u> </u>	5.00
cis-1,2-Dichloroethene	·····	U	5.00	U	5.00	<u>U</u>	5,00	<u>U</u>	5.00
trans-1,2-dichloroethene		U	5.00	U	5.00	U	5.00	U	5.00

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Managing Director, Texas





	010								24	1 10 1 201			
Dustant Ide	Route 111 & Rand Ave Vicini	-	-	ne: 90	0 S. Centra		ue ed in Lab:	hun 14 00	3 09:51 am				
Contact:		iy / 21.	50197		Dat								
					-	ort Date:	26-JUN-08 Debbie Simmons						
Project Location:	Roxana, Illinois 62084						Manager:						
Lab Id:			305871-0		305871-0		305871-		305871-00				
Analysis Requested Field Id: Depth: Matrix: Sampled:		d:	B4-06120	8	BS-06130	8	B6-0613	308	B6-061308EB WATER				
		h:											
		x:	WATER	ζ.	WATE	२	WATE	ER					
		d: .	Jun-12-08 1	6:30	Jun-13-08 I	0:05	Jun-13-08	12:00	Jun-13-08 13:30				
VOAs by SW-846 82	60B Extracte	d: 1	Jun-17-08 1	2:06	Jun-17-08 12:08		Jun-17-08	14:28	Jun-17-08 14:30				
,	Analyze	d: .	: Jun-17-08 14:20		Jun-17-08 1	4:42	Jun-17-08	15:03	Jun-17-08 15	5:25			
	Units/R	L:	ug/L	RL	ug/L	RL	ug/L	RL	ug/L	RL			
1,2-Dichloropropane			U	5.00	U	5.00	υ	5.00	U	5.00			
1,3-Dichloropropane			U	5.00	υ	5.00	υ	5.00	U	5.00			
2,2-Dichloropropane			U	5.00	U	5.00	υ	5.00	U	5.00			
1,1-Dichloropropene	-		υ	5.00	U	5.00	U	5.00	U	5.00			
cis-1,3-Dichloropropene			<u> </u>	5.00	U	5.00	U	5.00	UU	5.00			
trans-1,3-dichloropropenc			U	5.00	υ	5.00	U	5.00	U	5,00			
Ethylbenzene	y		U	5.00	3.00 J	5.00	U	5.00	U	5.00			
Hexachlorobutadiene			U	5,00	U	5.00	υ	5.00	U	5.00			
2-Hexanone			U	50.0	U	50.0	U	50,0	U	50.0			
isopropylbenzene				5.00	1.93 J	5.00	U	5.00	$\longrightarrow$	5.00			
Methylene Chloride		10	a 04.82 39	is*5.00	ND 0.0 (-5.18	15.8	VD 0.057	"L1'5.00	(1.67)	5.00			
4-Methyl-2-Pentanone			Ú	50.0	U	50.0	บ	50.0	υ	50,0			
Naphthalene			U	10.0	υ	10.0	U	10.0	U	10.0			
<sup>o</sup> ropylbenzene			υ	5.00	2.57 J	5.00	ប	5.00	υ	5.00			
.yrene			υ	5,00	U	5.00	U	5.00	U	5.00			
1,1,1,2-Tetrachloroethane			U	5.00	U	5.00	υ	5.00	υ	5.00			
1,1,2,2-Tetrachloroethane			<u> </u>	5.00	υ	5.00	U	5.00	υ	5.00			
Tetrachloroethylene			U	5.00	U	5.00	υ	5.00	U	5.00			
Toluene			U	5.00	6.17	5.00	υ	5.00	U	5.00			
1,2,3-Trichlorobenzene			U	5.00	υ	5.00	U	5.00	U	5.00			
1,2,4-Trichlorobenzene			U	5.00	U	5.00	<u> </u>	5.00	ប	5,00			
1,1,1-Trichloroethane			U	5,00	U	5.00	U	5.00	U	5.00			
1,1,2-Trichloroethane	······		U	5.00	U	5.00	U	5.00	<u> </u>	5.00			
Trichloroethene			<u> </u>	5.00	υ	5.00	U	5.00	υ	5.00			
Trichlorofluoromethane			U	5.00	υ	5.00	U	5.00	U	5,00			
1,2,3-Trichloropropane			U	5.00	U	5.00	U	5.00	U	5.00			
1,2,4-Trimethylbenzene			U	5,00	U	5.00	υ	5.00	υ	5.00			
1,3,5-Trimethylbenzene			U	5.00	υ	5.00	U	5.00	U	5.00			
o-Xylene			U	5.00	υ	5.00	Ŭ	5.00	υ	5,00			
m,p-Xylenes			υ	10.0	7.99 3	10.0	U	10.0	U	10.0			
Vinyl Chloride			U	2.00	υ	2.00	U	2.00	U	2.00			

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Project Name: 900 S. Central Avenue

Project Id: Route 111 Contact: Wendy Per	& Rand Ave Vicinity /	roject Name: 900 s 2156197	Date Received in Lab: Report Date:	Jun-14-08 09:51 am 26-JUN-08
Project Location: Roxana, Ill			Project Manager:	Debbie Simmons
	Lab Id:	305871-009		
Analysis Requested Field Id:		TB061308		
· ····································	Depth:			
	Matrix:	WATER		
	Sampled:	Jun-13-08 00:00		
NO A A CWU 046 0260D	Extracted:	Jun-17-08 12:04		
VOAs by SW-846 8260B	Analyzed:	Jun-17-08 13:59		
	Units/RL:	ug/L RL		
Acetone		U 100		
Benzene		U 5.00		
Bromobenzene		U 5.00		
Bromochloromethane		U 5.00		
Bromodichloromethane		U 5.00		
Bromoform		U 5.00		
Bromomethane		U 5.00		
2-Butanone		U 50.0		
MTBE		U 5.00		
n-Butylbenzene		U 5.00		
Sec-Butylbenzene		U 5.00		
tert-Butylbenzene		U 5.00		
Carbon Disulfide		U 50.0		
on Tetrachloride		U 5.00		
ərobenzene		U 5.00		
Chloroethane		U 10.0		
Chloroform		U 5.00		
Chloromethane		U 10.0		
2-Chlorotoluene		U 5.00		
4-Chlorotoluene		U 5.00		
p-Cymene (p-lsopropyltoluene)		U 5.00		
Dibromochloromethane		U 5.00		
1,2-Dibromo-3-Chloropropane		U 5.00		
I,2-Dibromoethane		U 5.00		
Dibromomethane		U 5.00		
1,2-Dichlorobenzene		U 5.00		
1,3-Dichlorobenzene		U 5.00		
1,4-Dichlorobenzene		U 5.00		
Dichlorodifluoromethane		U 5.00		
1,1-Dichloroethane		U 5.00		
1,2-Dichloroethane		U 5.00		
1,1-Dichloroethene		U 5.00		
cis-1,2-Dichloroethene		U 5.00 ·		
trans-1,2-dichloroethene		U 5.00		

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χP Carlos A. Castro, Ph.D., MBA

Managing Director, Texas





Project Name: 900 S. Central Avenue

Project Id: Route 111 & Rand A	Date Received in Lab	: Jun-14-08 09:51 am							
Contact: Wendy Pennington	Report Date:	26-JUN-08							
Project Location: Roxana, Illinois 6208	4		Project Manager:	Debbie Simmons					
	Lab Id:	305871-009							
Analysis Requested	Field Id:	TB061308							
	Depth:								
	Matrix:	WATER							
	Sampled:	Jun-13-08 00:00							
VOAs by SW-846 8260B	Extracted:	Jun-17-08 12:04							
10133 by 511 040 0200D	Analyzed:	Jun-17-08 13:59							
	Units/RL:	ug/L RL							
1,2-Dichloropropane		U 5.00							
1,3-Dichloropropane		U 5.00							
2,2-Dichloropropane		U 5.00							
1,1-Dichloropropene		U 5.00							
cis-1,3-Dichloropropene		U 5.00							
trans-1,3-dichloropropene		U 5.00							
Ethylbenzene		U 5.00							
Hexachlorobutadiene		U 5.00							
2-Hexanone		U 50.0							
isopropylbenzene		U 5.00							
Methylene Chloride		5.77 5.00							
4-Methyl-2-Pentanone		U 50.0							
Naphthalene		U 10.0							
opylbenzene		U 5.00							
, .yrene		U 5.00							
1,1,1,2-Tetrachloroethane		U 5.00							
1,1,2,2-Tetrachloroethane		U 5.00							
Tetrachloroethylene		U 5.00							
Toluene		U 5.00							
1,2,3-Trichlorobenzene		U 5.00							
1,2,4-Trichlorobenzene		U 5.00							
1,1,1-Trichloroethane		U 5.00							
1,1,2-Trichloroethane		U 5.00							
Trichloroethene		U 5.00							
Trichlorofluoromethane		U 5.00							
1,2,3-Trichloropropane		U 5.00							
1,2,4-Trimethylbenzene		U 5.00							
1,3,5-Trimethylbenzene		U 5.00							
o-Xytene		U 5.00							
m,p-Xylenes		U 10.0							
Vinyl Chloride		U 2.00							

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L. The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

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5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477

	LAB (L ; ON) 4145 Greenbriar Dr.; Stafford, TX 77477 XENCO (241-240-4200; FAX: 281-240-4280				2	D	S	hell	Oi	1 7	rod	ucts	s Ch	ain	Of	Cust	tody	y R	ecc	ord	•						
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	CIAL INSTRUCTIONS OR NOTES :	Cooler #2		·	Cooler#3																	]					Ι,
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05/2/06 Revision


Prelogin/Nonconformance Report- Sample Log-In

Client:	URS corporation
Date/ Time:	6/14/08
Lab ID # :	305871-4
Initials:	Far

#### Sample Receipt Checklist

#1	Temperature of container/ cooler?	Yes	No	N/A	2.3.0
#2	Shipping container in good condition?	Yes	No	None	
#3	Samples received on ice?	Yes	No	N/A	Blue/Water
#4	Custody Seals intact on shipping container/ cooler?	Yes	No	N/A	1
#5	Custody Seals intact on sample bottles/ container?	Yes	NO	N/A	
#6	Chain of Custody present?	Yes>	No		
#7	Sample instructions complete of Chain of Custody?	Yes>	No		
#8	Any missing/extra samples?	Yes	No		
#9	Chain of Custody signed when relinquished/ received?	Yes	No		
#10	Chain of Custody agrees with sample label(s)?	Yes	No		
#11	Container label(s) legible and intact?	Yes	No		
	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#13	Samples in proper container/ bottle?	Yas	No		
#14	Samples properly preserved?	Yes	No	N/A	
#15	Sample container intact?	Ýøs	No		
#16	Sufficient sample amount for indicated test(s)?	Yés	No		
#17	All samples received within sufficient hold time?	Yes	No		
#18	Subcontract of sample(s)?	Yes	No	N/A	
#19	VOC samples have zero headspace?	Yes	No	N/A	

#### Nonconformance Documentation

Contact:		Contacted by:	Date/ <u>Time:</u>
Regarding:			
Corrective Action Taker	1:		
			· · · · · · · · · · · · · · · · · · ·
Check all that Apply:		Client understands and would like to proceed with ana Cooling process had begun shortly after sampling eve	

.



#### **Rand Avenue Data Review**

Laboratory SDG: 308728

**Reviewer: Tony Sedlacek** 

Date Reviewed: 8/04/2008

Guidance: National Functional Guidelines for Organic Data Review 1999.

Applicable Work Plan: Route 111/Rand Avenue Vicinity Investigation Work Plan.

Sample Identification # P54072508

#### 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 indicated in the laboratory case narrative the MS recovery for acetone and the LCS recovery for chloroethane were outside evaluation criteria. Also, the sample was evaluated and qualified using professional judgment. 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	and the	ane species	Parameter	Analy	te	¢	Jualification	
N/A				and the second sec				

#### 4.0 Blank Contamination

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

No

Blank ID	Parameter	Analyte	Concentration	Units
N/A				

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

Field ID	Parameter	Analyte	New RL	Qualification
N/A				

#### 5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS Recovery	RPD	LCS Criteria
512967-1-BKS	VOCs	Chloroethane	139	N/A	70-130

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

Field ID	Parameter	Analyte	Qualification
N/A			

#### 6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

Field ID	Parameter	Surrogate	Recovery	Criteria
N/A				

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

Field ID	Parameter	Analyte	Qualification
N/A	Action (March 1997)		

#### 7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample P54072508 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Criteria
P54072508	VOCs	Acetone	39/43	10	40-160/21

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

#### 8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

Were laboratory duplicate sample RPDs within criteria?

N/A

Field 1D	Parameter	Analyte	RPD	Criteria
N/A				

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

Field ID	Parameter	Analyte	Qualification
N/A			

#### 9.0 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					

#### 10.0 Sample Dilutions

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

The sample did not require a dilution.

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

Field ID	Parameter	Dilution Factor
N/A		

#### 11.0 Additional Qualifications

Were additional qualifications applied?

Yes

Professional judgment was used to qualify the common laboratory contaminant methylene chloride reported at concentrations less than two times (2X) the RL.

Field ID	Analyte	New RL	Qualification	Comments
P54072508	Methylene chloride	-	U	Professional Judgment

## Analytical Report 308728

for

**URS Corporation-St. Louis** 

**Project Manager: Wendy Pennington** 

900 S. Central Avenue Route 111 & Rand Ave Vicinity / 21561979

30-JUL-08





4143 Greenbriar Dr., Stafford, TX 77477 Ph:(281) 240-4200 Fax:(281) 240-4280

Texas certification numbers: Houston, TX T104704215

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

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Page 1 of 16



30-JUL-08



Project Manager: Wendy Pennington URS Corporation-St. Louis 1001 Highlands Plaza Drive West, Suite 300 St. Louis, MO 63110

Reference: XENCO Report No: 308728 900 S. Central Avenue Project Address: Roxana, Illinois 62084

#### Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 308728. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 308728 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Carlos Castro Managing Director, Texas

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# Sample Cross Reference 308728



URS Corporation-St. Louis, St. Louis, MO

900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
P54072508	W	Jul-25-08 14:30		308728-001



## Certificate of Analysis Summary 308728 URS Corporation-St. Louis, St. Louis, MO



Project Name: 900 S. Central Avenue

Project Id: Route 111 & R: Contact: Wendy Penning	and Ave Vicinity / ton	•	900 5.	Date Received in Lab: Report Date:	30-JUL-08
Project Location: Roxana, Illinois	62084			Project Manager:	Debbie Simmons
	Lab Id:	308728-001			
Analysis Requested	Field Id:	P54072508			
	Depth:				
	Matrix:	WATER			
	Sampled:	Jul-25-08 14:	30		
VOAs by SW-846 8260B	Extracted:	Jul-29-08 12:	57		
10/13 by 511 010 02000	Analyzed:	Jul-29-08 12:	57		
	Units/RL:	ug/1.	RL		
Acetone		υ	100		
Benzene		U	5.00		
Bromobenzene		υ	5.00		
Bromochloromethane		υ	5.00		
Bromodichloromethane		U	5.00		
Bromoform		υ	5.00		
Bromomethane		U	5.00		
2-Butanone		U	50.0		
MTBE		U	5.00		
n-Butylbenzene		υ	5.00		
Sec-Butylbenzene		U	5.00		
tert-Butylbenzene		U	5.00		99999999999999999999999999999999999999
Carbon Disulfide		U	50.0		
on Tetrachloride		υ	5.00		
srobenzenc		U	5.00		
Chloroethane		υ	10.0		
Chlorofoлm		υ	5.00		
Chloromethane		U	10.0		
2-Chlorotoluene		υ	5.00		
4-Chlorotoluene		U	5.00		
p-Cymene (p-Isopropyltoluene)		υ	5.00		
Dibromochloromethane		υ	5.00		
1,2-Dibromo-3-Chloropropane		U	5.00		
1,2-Dibromoethane		υ	5.00		
Dibromomethane		U	5.00		er et anserer verer verbelek dele fakte dele af del andra af valande kan mit ada de kan mit anna makan man man
1,2-Dichlorobenzene		υ	5.00		
1,3-Dichlorobenzene		U	5.00		
1,4-Dichlorobenzene		υ	5.00		
Dichlorodifluoromethane		U	5.00		
1,1-Dichloroethane		U	5.00		
1,2-Dichloroethane		U	5.00		
1,1-Dichloroethene		υ	5.00		
cis-1,2-Dichloroethene		υ	5.00		*****
trans-1,2-dichloroethene		U	5.00	· · · · · · · · · · · · · · · · · · ·	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

Carlos A. Castro, Ph.D., MBA

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Managing Director, Texas



#### Certificate of Analysis Summary 308728 URS Corporation-St. Louis, St. Louis, MO



Project Name: 900 S. Central Avenue

Project Id: Route	111 & Rand Ave Vicinity /	2156197	900 5. (	Date Receive		Jul-26-0	8 09:00 am			
Ū.	y Pennington			Rep	ort Date:	30-JUL-08				
Project Location: Roxan				Project M		Debbie 3	Simmons			
~	Lab Id:	308728-001								
Analysis Requeste		P54072508								
marysis nequeste	Depth:									
	Matrix:	WATER								
	Sampled:	Jul-25-08 14:30								
	Extracted:	Jul-29-08 12:57								
VOAs by SW-846 8260B	Analyzed:	Jui-29-08 12:57								
	Units/RL:	ug/L RI								
1,2-Dichloropropane		U 5.	00							
1,3-Dichloropropane		U 5.	00							
2,2-Dichloropropane		U 5.	00							
1,1-Dichloropropene		U 5	00							
cis-1,3-Dichloropropene		U 5.	00							
trans-1,3-dichloropropene		U 5.	00							
Ethylbenzene		υ 5.	00							
Hexachlorobutadiene		U 5.	00							
2-Hexanone		U 50	).0							
isopropylbenzene		U 5.	00							
Methylene Chloride		3.84 J 5.	00							
4-Methyl-2-Pentanone		U 50	),0							
Naphthalene		U 10	0.0							
opylbenzene		U 5.	00							
rene		U 5.	00							
1,1,1,2-Tetrachloroethane		U 5.	00							
1,1,2,2-Tetrachloroethane		U 5.	00		1					
Tetrachloroethylene		U 5.	00							
Toluene		U 5.	00							
1,2,3-Trichlorobenzene		U 5.	00							
1,2,4-Trichlorobenzene		υ 5.	00				······································			
1,1,1-Trichloroethane	-	U 5.	00							
1,1,2-Trichloroethane		U 5.	00							
Trichloroethene		U 5.	00							
Trichlorofluoromethane		U 5.	00							
1,2,3-Trichloropropane		U 5.	00							
1,2,4-Trimethylbenzene		U 5.	00							
1,3,5-Trimethylbenzene		U 5.	00							
o-Xylene		U 5.	00							
m,p-Xylenes		U 10					/,			
Vinyl Chloride		U 2.	00							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories, XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Carlos A. Castro, Ph.D., MBA

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Managing Director, Texas



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L. The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

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6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477

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Prelogin/Nonconformance Report- Sample Log-In

Client:	UNS
Date/ Time:	7/26/8
Lab ID # :	308728-61
Initials:	

## Sample Receipt Checklist

#1	Temperature of container/ cooler?	T res	No	N/A	7-0°C
#2	Shipping container in good condition?	Tes	No	None	<u>  C-0°C</u>
#3	Samples received on ice?	Yes	No	N/A	DIMANT
#4	Custody Seals intact on shipping container/ cooler?	Nes	No	N/A N/A	Blue/Water
#5	Custody Seals intact on sample bottles/ container?	Yes	NO	N/A	
#6	Chain of Custody present?	Yes	No		
#7	Sample instructions complete of Chain of Custody?	The search is a se	No		
#8	Any missing/extra samples?	Yes	NO		
#9	Chain of Custody signed when relinquished/ received?	Yes	No		
#10		Yes	No		
11-4-4	Container label(s) legible and intact?	Yes	No		
	Sample matrix/ properties agree with Chain of Custody?	Xes	No		
#13	Samples in proper container/ bottle?	Aes)	No		
	Samples properly preserved?	Yes	No		
	Sample container intact?	Yes	No	N/A	
	Sufficient sample amount for indicated test(s)?	Yes			
	All samples received within sufficient hold time?	Yes	No		
	Subcontract of sample(s)?		No		
	VOC samples have zero headspace?	Yes	No	N/A	
		(Yes)	No	N/A	

### **Nonconformance Documentation**

Contact:		Contacted by:	Date/ Time:		
Regarding:	······································				
	·····				
Corrective Action Take	า:				
Check all that Apply:		Client understands and would like to proceed with a Cooling process had begun shortly after sampling e	analysis event		