

May 23, 2017

Ms. Joyce Munie, P.E.  
Manager, Permit Section  
Illinois Environmental Protection Agency  
Bureau of Land  
1021 North Grand Avenue East  
Springfield, Illinois 62794

**Submittal of Corrected Information  
Groundwater Monitoring Report – 3<sup>rd</sup> Quarter 2012  
Roxana, Illinois  
1191150002 – Madison County  
Equilon Enterprises LLC d/b/a Shell Oil Products US  
Log No. B-43R**

Dear Ms. Munie:

On behalf of Shell Oil Products US (SOPUS), AECOM Technical Services, Inc. (AECOM) hereby submits the enclosed addendum to the above-referenced report (the Report).

AECOM collects a variety of samples for SOPUS as part of the work performed in connection with the above-referenced site including the samples referenced and utilized in the Report. AECOM contracts with independent laboratories to analyze the samples collected. As noted in SOPUS' initial disclosure letter and our subsequent communications, Accutest Laboratories (Accutest) issued revised laboratory analyses in response to an internal evaluation performed of its process. Please note, the majority of the corrected analyses were issued only to include a revised footnote and the numeric value of the analytical results reported remained unchanged. If any numeric values of analytical results presented in the Report were updated by Accutest, the updated results are presented as part of the information included in the Report addendum. Moreover, based upon our evaluation of the Report and the revised information received from Accutest, the conclusion(s) of the Report as originally issued are unaffected.

The information provided within and the format of this addendum is as discussed during our meeting with IEPA on March 23, 2017. This addendum includes the following information:

- IEPA LPC form
- Data Review Addendum Table (summarizing changed information)
- Revised analytical results table
- Revised figures
- Revised laboratory reports (on CD)



If you have any questions during your review, please contact Kevin Dyer, SOPUS Senior Principal Program Manager, at [kevin.dyer@shell.com](mailto:kevin.dyer@shell.com) (618/288-7237), or Bob Billman at [bob.billman@aecom.com](mailto:bob.billman@aecom.com) (314/743-4108).

Sincerely,

AECOM, on behalf of Shell Oil Products US

A handwritten signature in blue ink that reads "Robert B. Billman".

Robert Billman, PG  
Senior Project Manager

A handwritten signature in blue ink that reads "Robert E. Mooshegian".

Robert E. Mooshegian, CHMM  
Senior Program Manager

Enclosures: 2 copies

cc: Kevin Dyer, SOPUS  
Eric Petersen, Phillips 66  
Shannon Haney, Greensfelder, Hemker & Gale P.C.  
Repositories – Village Hall, Roxana Public Library, website  
Project File



# Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

## ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

*This certification must accompany any document submitted to Illinois EPA in accordance with the corrective action requirements set forth in a facility's RCRA permit. The original and two copies of all documents submitted must be provided.*

### 1.0 FACILITY IDENTIFICATION

Name: WRB Refining LP Wood River Refinery County: Madison  
 Street Address: 900 South Central Ave. Site No. (IEPA): 1191150002  
 City: Roxana Site No. (USEPA): ILD 080 012 305

### 2.0 OWNER INFORMATION

Name: Not Applicable  
 Mailing Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### 3.0 OPERATOR INFORMATION

Equilon Enterprises LLC dba Shell Oil Products US (SOPUS)  
17 Junction Drive, PMB #399  
Glen Carbon, IL 62034

Contact Name: \_\_\_\_\_ Kevin Dyer  
 Contact Title: \_\_\_\_\_ Senior Principal Program Manager  
 Phone No.: \_\_\_\_\_ 618-288-7237

### 4.0 TYPE OF SUBMISSION (check applicable item and provide requested information, as applicable)

RFI Phase I Workplan/Report  
 RFI Phase II Workplan/Report  
 CMP Report; Phase \_\_\_\_\_  
 Other (describe):  
Multiple Document Addenda (see attached report list)  
 Date of Submittal May 2017

IEPA Permit Log No. B-43R  
 Date of Last IEPA Letter  
 on Project January 18, 2017  
 Log No. of Last IEPA  
 Letter on Project B-43R-CA-59, -60, -69  
 Does this submittal include groundwater information:  Yes  No

### 5.0 DESCRIPTION OF SUBMITTAL: (briefly describe what is being submitted and its purpose)

Addenda to multiple documents. List of documents is provided on the Attachment I. Addenda being issued due to revised laboratory reports.

### 6.0 DOCUMENTS SUBMITTED (identify all documents in submittal, including cover letter; give dates of all documents)

Cover letter. RCRA Corrective Action Certification. Addenda to multiple documents identified on the attached list.

### 7.0 CERTIFICATION STATEMENT - (This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in Items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. 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.

**7.1 OWNER/OPERATOR CERTIFICATION** (Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126.) All submittals pertaining to the corrective action requirements set forth in a RCRA Permit must be signed by the person designated below (or by a duly authorized representative of that person):

1. For a Corporation, by a principal executive officer of at least the level of vice-president.
2. For a Partnership or Sole Proprietorship, by a general partner or the proprietor, respectively.
3. For a Governmental Entity, by either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. the written authorization is provided with this submittal (a copy of a previously submitted authorization can be used).

Owner Signature: \_\_\_\_\_ (Date) \_\_\_\_\_

Title: \_\_\_\_\_

Operator Signature: Kevin Edger \_\_\_\_\_ 5/17/18 \_\_\_\_\_  
 Title: Senior Principal Program Manager

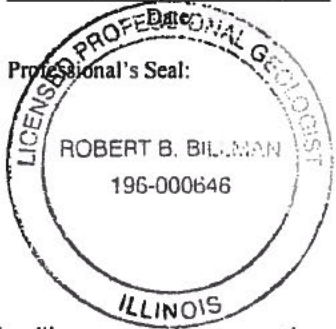
**7.2 PROFESSIONAL CERTIFICATION** (if necessary) - Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved 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.

Professional's Signature: Robert B. Billman \_\_\_\_\_ 5/17/17 \_\_\_\_\_

Professional's Name: Robert B. Billman

Professional's Address: AECOM Technical Services, Inc.  
1001 Highlands Plaza Drive West, Suite 300  
St. Louis, MO 63110

Professional's Phone No.: 314-429-0100



**7.3 LABORATORY CERTIFICATION** (if necessary) - The sample collection, handling, preservation, preparation and analysis efforts for which this laboratory was responsible were carried out in accordance with procedures approved by Illinois EPA.

Name of Laboratory: See Attachment 2

Signature of Laboratory Responsible Officer \_\_\_\_\_ Date \_\_\_\_\_

Mailing Address of Laboratory:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name and Title of Laboratory Responsible Officer \_\_\_\_\_

**Attachment 1  
List of Documents**

Submittal	Date of Submittal
Roxana 3Q12 Groundwater Monitoring Report	10/15/2012
Roxana 4Q12 Groundwater Monitoring Report	1/15/2013
Roxana 4Q13 Soil Vapor Report	1/31/2014
Roxana 1Q14 Soil Vapor Report	4/30/2014
Roxana 2Q14 Soil Vapor Report	7/30/2014
Roxana 3Q14 Soil Vapor Report	10/30/2014
Roxana 2Q15 Soil Vapor Report	7/29/2015
GWP-28 Installation Plan	11/27/2012
Public Work Yard Soil Sampling Report	3/13/2013
GW Monitoring Well and Vapor Monitoring Point Installation Report	4/3/2013
April 30, 2013-Groundwater Profile Delineation Report	4/30/2013
Addendum to Monitoring Well & Vapor Monitoring Point Installation Report - Supplemental Investigation Activities	5/22/2013
SVE Expansion-Construction Completion Rpt Addendum 2	1/9/2014
SVE System Construction Completion Rpt Addendum 3	3/4/2015

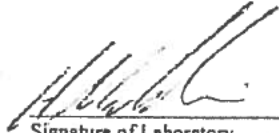
Note: Highlighted row represents subject Addendum

**ATTACHMENT 2**

**LABORATORY CERTIFICATION**

Revisions to previously reported laboratory data were required following a laboratory quality review. These revisions were performed in accordance with industry standards for testing laboratories accredited by the National Environmental Laboratory Accreditation Conference (NELAC). I certify the information contained in the revised and reissued laboratory reports are, to the best of my knowledge and belief, true, accurate and complete.

Name of Laboratory: SGS Accutest

  
 Signature of Laboratory Responsible Officer

5.17.17  
Date

Mailing Address of Laboratory:

Hossain (BAPU) MADADIAN  
 Name and Title of Laboratory Responsible Officer  
 Lab Director

50 D'Angelo Drive

495 Technology Center West, Building I

Marlboro, MA 01752

LEGAL REVIEWED  
 BY: MD  
 DATE: 5.17.17

Laboratory Report (Sample Delivery Group[SDG])			
mc12669	mc23880	mc17144	mc18856
mc12784	mc26889	mc17324	mc18890
mc12833	mc27073	mc17401	mc18895
mc12905	mc23933	mc16336	mc18752
mc12941	mc32497	mc16445	mc24546
mc12942	mc32521	mc16475	mc32549
mc13051	mc38153	mc16587	mc32591
mc15232	mc38192	mc16644	mc32628
mc15892	mc14777	mc16798	mc32660
mc16960	mc14814	mc16889	mc32763
mc23682	mc16999	mc17501	mc33045

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Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	MW6B-ROX-080112	MC12784-2	08/01/2012	Acetone	3.2	3.2	J	ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	MW6C-ROX-080112	MC12784-3	08/01/2012	Acetone	3.0	3.0	J	ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	P57-ROX-080612	MC12905-5	08/06/2012	Benzene	99400	99400		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	P57-ROX-080612-DUP	MC12905-6	08/06/2012	Benzene	106000	106000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	P58-ROX-080612	MC12905-7	08/06/2012	Benzene	313000	313000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	P58-ROX-080612-DUP	MC12905-8	08/06/2012	Benzene	308000	308000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	MW7-ROX-080712	MC12941-1	08/07/2012	Acetone	199	199		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	MW7-ROX-080712	MC12941-1	08/07/2012	Benzene	591000	591000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	MW8-ROX-080712	MC12942-2	08/07/2012	Acetone	378	378		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	MW8-ROX-080712	MC12942-2	08/07/2012	Benzene	397000	397000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	MW8-ROX-080712-DUP	MC12942-3	08/07/2012	Acetone	235	235		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	MW8-ROX-080712-DUP	MC12942-3	08/07/2012	Benzene	653000	653000		ug/l	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J
SW846 8260B	P93A-ROX-080912	MC13051-3	08/09/2012	n-Butylbenzene	2.7	1.6	J	ug/l		
SW846 8260B	P93B-ROX-080912	MC13051-4	08/09/2012	Acetone	67.2	67.2		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J



Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	P93C-ROX-080912	MC13051-5	08/09/2012	Acetone	5.6	5.6		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	P114-ROX-080912	MC13051-6	08/09/2012	Acetone	75.6	75.6		ug/l	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J

**LABORATORY QUALIFIERS:**

J = The analyte was detected below the reporting limit. Result is estimated.

**AECOM QUALIFIERS:**

J = The result is estimated.

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>			0.005 <sup>4</sup>	0.7 <sup>1</sup>	
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.039 U	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.0145 U	0.0363	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW1-ROX-072711	7/27/2011		35.77	NE	<0.005	0.0053	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.005 UJ	0.00097	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW1-ROX-011612	1/16/2012	48.80 - 58.80	37.75	NE	<0.005	0.0142	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW1-ROX-073012	7/30/2012	48.80 - 58.80	39.39	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.5	0.401	<0.025	<0.025	<0.025	<0.25	<0.025	<0.025	<0.05	<0.025	<0.05	<0.025		0.641	
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.005	0.294	0.0078	0.0047 J	<0.005	<0.005	<0.001	<0.001	0.0077	<0.001	0.0019 J	0.0032 J		0.74	
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.005	1.18	<0.005	0.0029 J	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0027 J	<0.025	1.24	<0.005
	MW2-ROX-072711	7/27/2011		37.04	NE	<0.05	1.98	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.25	1.76	<0.05
	MW2-ROX-072711-DUP	7/27/2011	37.04	NE	<0.05	1.79	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.25	1.57	<0.05	
	MW2-ROX-112811	11/28/2011	49.87 - 59.87	38.03	NE	<0.005	0.0216	<0.005	0.0106	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0121	<0.025	0.503	<0.005
	MW2-ROX-011612	1/16/2012		38.89	NE	<0.025	0.0161	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.13	0.777	<0.025
	MW2-ROX-050112	5/1/2012		40.25	NE	<0.025	0.0145	<0.025	0.0068 J	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	0.008 J	<0.13	0.948	<0.025
	MW2-ROX-073012	7/30/2012	49.87 - 59.87	40.60	NE	<0.005	0.01	<0.005	0.0078	0.001 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.009	<0.025	0.952	<0.005
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.005	0.00056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	0.00077 J	<0.001	0.00082 J	<0.005		0.00082 J	
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-080311	8/3/2011		22.72	NE	<0.005	0.00056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	<0.005	0.00052	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-011612	1/16/2012		24.93	NE	<0.005	0.00091	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-043012	4/30/2012		26.19	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW3-ROX-072712	7/27/2012	34.67 - 44.67	26.60	NE	<0.005 UJ	0.0089	<0.005	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005		<0.001	<0.005
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.1	0.0752	<0.005	0.001 J	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.005	0.0567	0.0006 J	0.00063 J	0.00069 J	<0.005	<0.001	<0.001	0.00096 J	<0.001	<0.002	<0.005		<0.001	
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.005	0.0625	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW4-ROX-072611	7/26/2011		34.15	NE	<0.005	0.114	<0.005	0.0058	0.0063	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0023	<0.005
	MW4-ROX-072611-DUP	7/26/2011		34.15	NE	<0.005	0.108	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0021	<0.005
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.005	0.0381	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	<0.005	0.115	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	0.0017 J
	MW4-ROX-050312	5/3/2012		37.45	NE	<0.005	0.0941	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	<0.063 U	0.0933	<0.005	<0.005	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW4-ROX-072512	7/25/2012		37.63	NE	<0.005	0.191	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.00082 J	<0.005
	MW4-ROX-072512-Dup	7/25/2012	46.06 - 56.06	37.63	NE	<0.005	0.199	0.0014 J	0.0017 J	0.002 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.00083 J	<0.005

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>			0.005 <sup>4</sup>	0.7 <sup>1</sup>	
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.0344 U	0.0048	<0.005	<0.005	0.0014 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.005 UJ	0.0055	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW5-ROX-072611	7/26/2011	33.97 - 43.97	22.00	NE	<0.005	0.0222	0.0054	0.0061	0.0078	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW5-ROX-072611-DUP	7/26/2011		22.00	NE	<0.005	0.0221	0.0054	0.0061	0.0078	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW5-ROX-112111	11/21/2011		23.46	NE	<0.005 UJ	0.0109	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	<0.005
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.005	0.0442	<0.005	<0.005	0.0057	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.005	0.0532	<0.005	0.0029 J	0.0073	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0014 J	<0.025	<0.001	<0.005
	MW5-ROX-072512	7/25/2012		26.18	NE	<0.005	0.0925	<0.005	0.0015 J	0.007	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.00099 J	<0.025	<0.001	<0.005
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW6A-ROX-011911	1/19/2011		26.36	NE	<0.0135 U	0.0113	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005		<0.001	
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.005 UJ	0.0031	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6A-ROX-072611	7/26/2011	34.83 - 44.83	23.76	NE	<0.005 U	0.0032	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6A-ROX-112111	11/21/2011		25.49	NE	<0.0059 UJ	0.0105 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	<0.005
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	<0.005 UJ	0.0137 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	<0.005
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.005	0.00077	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6A-ROX-080112	8/1/2012		28.36	NE	<0.005	0.0016	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005	0.0082	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	<0.005	0.0082	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW6B-ROX-051611	5/16/2011	64.05 - 69.05	25.95	NE	<0.005 UJ	0.0033	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	<0.005 UJ	0.0033	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6B-ROX-072311	7/23/2011		23.60	NE	<0.005 UJ	0.0022	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6B-ROX-110311	11/3/2011		24.67	NE	<0.05	0.961	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02 UJ	<0.05	<0.25	<0.01	<0.05
	MW6B-ROX-011712	1/17/2012		26.77	NE	<0.005	0.0013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6B-ROX-050212	5/2/2012		27.82	NE	<0.005	0.00086	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
MW6B-ROX-080112	8/1/2012	28.39	NE	<0.0032 UJ	0.00045 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005		
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.005	0.0085	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.005 UJ	0.0071	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6C-ROX-072411	7/24/2011	84.95 - 89.95	23.43	NE	<0.005 UJ	0.0027	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6C-ROX-110311	11/3/2011		24.47	NE	<0.005	0.0017	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6C-ROX-011712	1/17/2012		26.50	NE	<0.005	0.0028	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6C-ROX-050212	5/2/2012		27.62	NE	<0.005	0.0015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6C-ROX-080112	8/1/2012		28.15	NE	<0.003 UJ	0.00061	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>			0.005 <sup>4</sup>	0.7 <sup>1</sup>		
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	
	MW6D-ROX-012111	1/21/2011		25.87	NE	<0.005	0.0104	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.001	<0.001
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.005 UJ	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.005 UJ	0.0027	<0.005	<0.005	<0.005	<0.005	0.007	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW6D-ROX-011712	1/17/2012		26.33	NE	<0.005	0.0022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6D-ROX-050212	5/2/2012		27.45	NE	<0.005	0.0015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW6D-ROX-080212	8/2/2012		104.72 - 109.72	30.56	NE	<0.005 UJ	0.00068	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.001	<0.005
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<25	928 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25	<1.25	<1.25	
	MW-7-111710-Dup	11/17/2010		36.93	NE	<25	876 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25	<1.25	<1.25	
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.005 UJ	1150 J	0.0015 J J	0.0011 J J	0.0012 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.005 UJ	0.0325 J		
	MW07-ROX-051311	5/13/2011		37.50	NE	<0.005 UJ	1030 J	<0.005 UJ	0.0011 J J	0.0016 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.025 UJ	0.0494 J	<0.005 UJ	
	MW07-ROX-051311D	5/13/2011		37.50	NE	<0.005	922 J	<0.005	0.0013 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0487	<0.005	
	MW7-ROX-072411	7/24/2011		35.65	NE	<25 UJ	1840	<25	<25	<25	<25	<5	<5	<10	<5	<10	<25	<130	<5	<25	
	MW-7-ROX-110211	11/2/2011		35.95	NE	<5	774	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ	<5	<25	<1	<5	
	MW7-ROX-011812	1/18/2012		38.10	NE	<0.166 U	1330 J	0.0026 J	0.0021 J	0.003 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0727	<0.005	
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	<0.146 U	1110	0.0027 J	0.0022 J	0.0029 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0015 J	<0.025	0.0718	<0.005	
	MW7-ROX-050412	5/4/2012		39.19	NE	<0.5	738	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	<0.1	<0.5	
MW7-ROX-080712	8/7/2012	42.92 - 52.92	39.50	NE	0.199 J	591 J	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.25	0.0619	<0.05		
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<25	965 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25	<1.25		
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.0469 U	986	0.0021 J J	0.0014 J J	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	0.0012 J J		0.234 J		
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.0403 U	1030	0.002 J J	0.0014 J J	0.0011 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	0.001 J J		0.237 J		
	MW08-ROX-051311	5/13/2011		28.35	NE	<50	1310	<50	<50	<50	<50	<10	<10	<20	<10	<20	<50	<250	<10	<50	
	MW08-ROX-051311D	5/13/2011		28.35	NE	<5	952 J	<5	<5	<5	<5	<1	<1	<2	<1	<2	<5	<25	<1	<5	
	MW8-ROX-072411	7/24/2011		26.02	NE	<25	1650	<25	<25	<25	<25	<5	<5	<10	<5	<10 UJ	<25	<130	<5	<25	
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	<25 UJ	1860	<25	<25	<25	<25	<5	<5	<10	<5	<10	<25	<130	<5	<25	
	MW-8-ROX-110211	11/2/2011		27.02	NE	<5	934	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ	<5	<25	<1	<5	
	MW8-ROX-011812	1/18/2012		29.15	NE	<0.005	386	0.0043 J	0.003 J	0.002 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0022 J	<0.025	0.285	<0.005	
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.5	1070	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	0.393	<0.5	
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.5	1040	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	0.396	<0.5	
	MW8-ROX-080712	8/7/2012		33.60 - 43.60	30.97	NE	<0.378 UJ	397 J	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1	<0.5	0.249	<0.1
MW8-ROX-080712-DUP	8/7/2012	33.60 - 43.60	30.97	NE	<0.235 UJ	653 J	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.25	0.232	<0.05		
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005		
	MW9-ROX-012111	1/21/2011		39.62	NE	<0.005	0.0037	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.001		
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW9-ROX-072311	7/23/2011		38.06	NE	<0.005 UJ	0.0024	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW9-ROX-011612	1/16/2012		39.50	NE	<0.005	0.0031	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW9-ROX-050312	5/3/2012		41.03	NE	<0.005	0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW9-ROX-072712	7/27/2012		46.45 - 56.45	41.30	NE	<0.005 UJ	0.00058	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.001	<0.005

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>			0.005 <sup>4</sup>	0.7 <sup>1</sup>		
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005		
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0122 U	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.0088 U	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW10-ROX-072311	7/23/2011		38.01	NE	<0.005 UJ	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.005	0.0022	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.005	0.0026	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.005	0.00079	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	MW10-ROX-072712	7/27/2012	44.43 - 54.43	41.21	NE	<0.005 UJ	0.00058	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005		<0.001	<0.005	
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005		
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001		
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.005	0.00041 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW11-ROX-072411	7/24/2011		34.3	NE	<0.005 UJ	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.005	0.0019	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW11-ROX-011712	1/17/2012		37.44	NE	<0.005	0.0024	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.005	0.00087	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW11-ROX-072712	7/27/2012	41.66 - 51.66	38.90	NE	<0.005 UJ	0.00073	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005		<0.001	<0.005	
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	0.00161 J	<0.01	<0.005		<0.005		
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001		
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.005 UJ	0.0016	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW12-ROX-072411	7/24/2011		35.55	NE	<0.005 UJ	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005 UJ	<0.025	<0.001	<0.005	
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.005	0.0012	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.005	0.0014	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.005	0.0023	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.005	0.0028	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.005	0.00066	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW12-ROX-072712	7/27/2012	41.92 - 51.92	39.22	NE	<0.005 UJ	0.0013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005		<0.001	<0.005	
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001		
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.005 UJ	0.0005 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW13-ROX-080311	8/3/2011		21.67	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.005	0.05	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005	
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.005	0.0742 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW13-ROX-080812	8/8/2012		25.57 - 35.57	26.67	NE	<0.037 U	0.0069 J	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.025 UJ	<0.001 UJ	<0.005 UJ
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42	NM	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW14-ROX-051012	5/10/2012	NM	NE	<0.005	0.009	0.0014 J	0.0026 J	0.0012 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005	
	MW14-ROX-080312	8/3/2012	33.42 - 43.42	NM	NE	<0.005	0.0131	0.0015 J	0.0027 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.00065 J	<0.005	

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CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>		0.005 <sup>4</sup>	0.7 <sup>1</sup>			
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005		
	P54-ROX-012411	1/24/2011		37.24	NE	<0.0048 U	<0.00039 U	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.001	<0.001	
	P54-ROX-051111	5/11/2011		37.37	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P54-ROX-072411	7/24/2011		35.38	NE	<0.005 UJ	0.0023	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005 UJ	<0.025	<0.001	<0.005
	P54-ROX-110311	11/3/2011		35.49	NE	<0.005	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	P54-ROX-011712	1/17/2012		37.17	NE	<0.005	0.0025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P54-ROX-050412	5/4/2012		38.77	NE	<0.005	0.00082	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P54-ROX-080212	8/2/2012		38.95	NE	<0.005 UJ	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		<0.001	<0.005
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.005	0.152	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0143	<0.005	
	P55-ROX-011912	1/19/2012		41.09	NE	<0.005	<0.197 U	<0.005	0.0036 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0656	<0.005	
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.005	<0.202 U	<0.005	0.0038 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0683	<0.005	
	P55-ROX-050912	5/9/2012		42.44	NE	<0.005	0.388	0.0099	0.0093	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0031 J	<0.025	0.41	<0.005	
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	<0.005	0.144	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.457 J	<0.005	
	P56-ROX-011912	1/19/2012		41.81	NE	<0.005	0.335	<0.005	0.0035 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.227	<0.005	
	P56-ROX-050812	5/8/2012		43.09	NE	<0.23 U	0.144	0.0086	0.0051	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	0.0069	0.0044 J	<0.025	1.14	<0.005	
	P56-ROX-080612	8/6/2012		43.60	NE	<0.025 UJ	0.164	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025		0.101	<0.025	
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	<0.5	123	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	1.1	<0.5	
	P57-ROX-021312	2/13/2012		42.13	NE	<2.5 UJ	126	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1	<2.5	<13	0.719	<2.5	
	P57-ROX-050712	5/7/2012		42.92	NE	<0.5	147	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	1.07	<0.5	
	P57-ROX-080612	8/6/2012		43.53	NE	<0.25 UJ	99.4 J	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25		0.795	<0.25	
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	<0.005 UJ	106 J	<0.005	0.0107	0.0124	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0109		0.759 E	<0.005	
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	<0.005	430	<0.005	0.0148	0.0344	<0.005	<0.001	0.0014	<0.002	<0.001	<0.002	0.0113	<0.025	<5	<0.005	
	P58-ROX-011912	1/19/2012		39.73	NE	<0.005	487	0.027	0.0215	0.056 J	<0.005	<0.001	0.0013	<0.002	<0.001	<0.002	0.0149	<0.025	0.97 J	<0.005	
	P58-ROX-011912-D	1/19/2012		39.73	NE	<0.005	474	0.0235 J	0.0168 J	0.0387 J	<0.005	<0.001	0.0014 J	<0.002	<0.001	<0.002	0.0123 J	<0.025	1.03	<0.005	
	P58-ROX-050712	5/7/2012		40.90	NE	<0.5	477	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	1.03	<0.5	
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	<0.5	440	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<2.5	1	<0.5	
	P58-ROX-080612	8/6/2012		41.63	NE	<0.1 UJ	313 J	<0.1	<0.1	0.0317 J	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1		0.889	<0.1	
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	<0.05	308 J	<0.05	0.0176 J	0.0339 J	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	0.0118 J	<0.25	0.931	<0.05	
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	<0.25	6.01	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<1.3	1.49	<0.25	
	P59-ROX-011912	1/19/2012		42.88	NE	<0.005	6.61	<0.005 UJ	0.0054	0.0031 J J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0036 J	<0.025	1.28	<0.005	
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	<0.005	7.04	0.0264 J	0.0055	0.0372 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0038 J	<0.025	1.4	<0.005	
	P59-ROX-050912	5/9/2012		44.11	NE	<0.25	7.86	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<1.3	1.93	<0.25	
	P59-ROX-080212	8/2/2012		44.07	NE	<0.1 UJ	11	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1		1.74	<0.1	
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	<0.005	0.0171	0.0153	0.0185	0.0063	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	0.0016	<0.005	
	P66-ROX-051012	5/10/2012		32.48	NE	<0.005	0.0193	0.0139	0.019	0.0059	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0015	<0.005	
	P66-ROX-080312	8/3/2012		30.51	NE	<0.005	0.0994	0.0118	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0013	<0.005	
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	<0.005	5.02	0.0242	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.229	<0.005	
	P74-ROX-011912	1/19/2012		38.77	NE	<0.005	<0.205 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0095	<0.005	
	P74-ROX-050712	5/7/2012		39.92	NE	<0.005	0.336	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0081	<0.005	
	P74-ROX-080612	8/6/2012		40.71	NE	<0.05 UJ	2.46	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05		0.0782	<0.05	

TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>		0.005 <sup>4</sup>	0.7 <sup>1</sup>		
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<25	422 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25		0.32 J	
	P93A-ROX_012611	1/26/2011		40.97	NE	<0.005	491	0.0059	0.0096	0.0213	<0.005	0.00081 J	0.00061 J	<0.002	<0.001	<0.002	0.0047 J		0.373	
	P93A-ROX-050511	5/5/2011		41.88	NE	<0.005	551	<0.005	0.0054 J	0.0133 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0034 J J	<0.025	<5	<0.005
	P93A-ROX-081811	8/18/2011		39.40	NE	<0.005	467	<0.005	0.0071	0.0177	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0049 J	<0.025	<10	<0.005
	P93A-ROX-102611	10/26/2011		39.43	NE	<0.005 UJ	543	<0.005	0.006	0.015	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0081	<0.025	0.304	<0.005
	P93A-ROX-012012	1/20/2012		41.66	NE	<0.005	164 J	0.0037 J J	0.0045 J	0.0122	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0023 J	<0.025	0.185	<0.005
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.0441 U	200	0.005 J	0.0069 J	0.0179 J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	0.0035 J J	<0.025 UJ	0.38 J	<0.005 UJ
	P93A-ROX-080912	8/9/2012		43.66	NE	<1.63 U	87	0.0016 J	0.0048 J	0.0128	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0022 J	<0.025	0.225	<0.005
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<10	189 D	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.5	<1	<0.5		<0.5	
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.005	105	<0.005	<0.005	0.00058 J	<0.005	<0.001	<0.001	0.00077 J	<0.001	0.0014 J	<0.005		0.0104	
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.005	134	<0.005	0.0045 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0169	<0.005
	P93B-ROX-081811	8/18/2011		39.44	NE	<5	304	<5	<5	<5	<5	<1	<1	<2	<1	<2	<5	<25	<1	<5
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.005 UJ	590	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0533	<0.005
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.005	337	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0831 J	0.0274 J	<0.005
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.0747 U	304	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0379 J	<0.005
	P93B-ROX-080912	8/9/2012		43.69	NE	<0.0672 UJ	317	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0741	<0.005
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.005	86.5	<0.005	<0.005	0.00056 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005		0.0175	
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.005	15.7	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0029	<0.005
	P93C-ROX-081811	8/18/2011		39.32	NE	<0.005	1.2	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.005 UJ	0.0014	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.005	0.0057	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93C-ROX-080912	8/9/2012		43.57	NE	<0.0056 UJ	0.00084	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
P-93D	P93D-102610	10/26/2010	125.44 - 127.44	40.59	NE	<0.1	0.0429	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005		<0.005	
	P93D-ROX-050511	5/5/2011		41.96	NE	<0.005	0.0287	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.025	<0.001	<0.005
	P93D-ROX-081811	8/18/2011		39.46	NE	<0.005	0.0059	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.005	0.00097	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.005	0.0513	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.005	0.0056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P93D-ROX-080812	8/8/2012		43.71	NE	<0.005 UJ	0.0134	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P114-ROX-012012	1/20/2012		27.17	NE	<0.005	0.0011 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P114-ROX-050912	5/9/2012		28.09	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	P114-ROX-080912	8/9/2012		29.13	NE	<0.0756 UJ	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.61 U	0.0074	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0167	<0.005
	ROST3PZ-ROX-080712	8/7/2012	40.00 - 50.00	39.00	NE	<0.005	0.0041	<0.005	<0.005	0.00072 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.0047	<0.005
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.005	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	<0.001	<0.005
	ROST4PZ-C-ROX-072512	7/25/2012	34.95 - 44.95	39.10	NE	<0.005	0.0849	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.025	0.177	<0.005

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Acetone	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate
Screening Values (mg/L)						6.3 <sup>1</sup>	0.005 <sup>1</sup>	0.35 <sup>3</sup>			0.7 <sup>2</sup>	0.005 <sup>1</sup>	0.1 <sup>2</sup>		0.0002 <sup>2</sup>			0.005 <sup>4</sup>	0.7 <sup>1</sup>	
T-12	T12-ROX-102711	10/27/2011	46.72 - 72.72	38.54	NE	<0.05	1.09	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.25	0.648	<0.05
	T12-ROX-011912	1/19/2012		41.0	NE	<0.005	1.51	0.0062	0.0022 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	0.0024 J	<0.025	0.285	<0.005
	T12-ROX-050912	5/9/2012	42.62	NE	<0.025	1.48	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.13	1.88	<0.025	
	T12-ROX-080212	8/2/2012	46.72 - 72.72	41.92	NE	<0.05 UJ	1.64	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05		0.573	<0.05



**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>	
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.005		<0.005	0.0032	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	0.0013	
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.005	<0.005	<0.005	0.0027	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0016	<0.001	0.0016
	MW1-ROX-072711	7/27/2011		35.77	NE	<0.005	<0.005	<0.005	0.0055	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.005	<0.005	<0.005	0.0027	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-011612	1/16/2012	48.80 - 58.80	37.75	NE	<0.005	<0.005	<0.005	0.0032	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-050112	5/1/2012	39.09	NE	<0.005	<0.005	<0.005	0.0031	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW1-ROX-073012	7/30/2012	48.80 - 58.80	39.39	NE	<0.005	<0.005	<0.005	0.0022	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.025		0.0236 J	<0.025	0.0354	1.22 D	<0.025	<0.025	<0.025	0.273	0.0618	<0.25	1.14	0.318	
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.005		0.0617	<0.001	0.0652	0.737	<0.005	<0.005	<0.001	0.279	0.0744	<0.005	0.892	0.191	
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.005	<0.005	0.0539	<0.001	0.0669	3.51	<0.005	<0.005	<0.001	0.339	0.103	<0.005	2.05	0.549	2.6
	MW2-ROX-072711	7/27/2011		37.04	NE	<0.05	<0.05	0.0995	<0.01	0.111	4.69	<0.05	<0.05	<0.01	0.338	0.116	<0.05	2.91	0.823	3.74
	MW2-ROX-072711-DUP	7/27/2011	37.04	NE	<0.05	<0.05	0.0967	<0.01	0.1	4.67	<0.05	<0.05	<0.01	0.298	0.108	<0.05	2.63	0.728	3.36	
	MW2-ROX-112811	11/28/2011	49.87 - 59.87	38.03	NE	<0.005	<0.005	0.128	<0.001	0.146	0.0328	<0.005	<0.005	<0.001	0.407	0.212	<0.005	0.747	0.0574	0.804
	MW2-ROX-011612	1/16/2012	38.89	NE	<0.025	<0.025	0.0832	<0.005	0.0993	0.0375	<0.025	<0.025	<0.005	0.388	0.162	<0.025	0.857	0.056	0.913	
	MW2-ROX-050112	5/1/2012	40.25	NE	<0.025	<0.025	0.0886	<0.005	0.119	0.0445	<0.025	<0.025	<0.005	0.413	0.154	<0.025	1.14	0.0797	1.22	
MW2-ROX-073012	7/30/2012	49.87 - 59.87	40.60	NE	<0.005	<0.005	0.0818	<0.001	0.116	0.0374	<0.005	<0.005	<0.001	0.338	0.135	<0.005	1.27	0.0906	1.34	
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.005		0.0016 J	<0.005	0.00622	0.00257 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00653 J	<0.005	
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.005		<0.005	0.0021	<0.005	<0.001	<0.005	<0.005	<0.001	0.00085 J	<0.005	<0.005	0.0012	0.0014	
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.005	<0.005	<0.005	0.0026	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0022	<0.001	0.0022
	MW3-ROX-080311	8/3/2011		22.72	NE	<0.005	<0.005	0.0012 J	<0.001	<0.005	0.0015	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.005	<0.005	<0.005	0.0014	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-112911-DUP	11/29/2011	24.06	NE	<0.005	<0.005	<0.005	0.0014	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-011612	1/16/2012	24.93	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-043012	4/30/2012	26.19	NE	<0.005	<0.005	<0.005	0.0039	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW3-ROX-072712	7/27/2012	34.67 - 44.67	26.60	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.005		0.00271 J	0.00508	0.00395 J	0.0157	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00699 J	0.00139 J	
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.005		0.002 J	0.007	0.0022 J	0.0071	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0062	0.0021	
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.005	<0.005	0.0036 J	0.0096	0.0037 J	0.0125	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0096	0.0016	0.0111
	MW4-ROX-072611	7/26/2011		34.15	NE	<0.005	<0.005	0.0088	0.0113	0.0085	0.017	<0.005	<0.005	<0.001	<0.005	0.0052	<0.005	0.0067	<0.001	0.0067
	MW4-ROX-072611-DUP	7/26/2011		34.15	NE	<0.005	<0.005	0.0088	0.0103	0.0083	0.0162	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0063	<0.001	0.0063
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.005	<0.005	<0.005	0.0073 J	<0.005	0.0092	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0069	0.001	0.0079
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	<0.005	<0.005	0.0061	<0.001	0.0061	0.0283	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0148	0.0025	0.0173
	MW4-ROX-050312	5/3/2012	37.45	NE	<0.005	<0.005	0.0038 J	0.0174	<0.005	0.0255	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.016	0.003	0.0189
	MW4-ROX-050312-DUP	5/3/2012	37.45	NE	<0.005	<0.005	0.0036 J	0.0162	0.0043 J	0.0252	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.0151	0.0031	0.0182
	MW4-ROX-072512	7/25/2012	46.06 - 56.06	37.63	NE	<0.005 UJ	<0.005	0.0061	0.015	0.0071	0.0418	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0221	0.0042	0.0262
MW4-ROX-072512-Dup	7/25/2012	37.63	NE	<0.005 UJ	<0.005	0.0063	0.0154	0.0072	0.0427	<0.005	<0.005	<0.001	0.00068 J	0.0057	<0.005	0.0214	0.0043	0.0257		

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>		
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.005		<0.005	0.00556	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00277 J	<0.005		
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.005		<0.005	0.0066	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.00087 J	0.0014	
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.005	<0.005	<0.005	0.0085	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.0035	<0.001	0.0035
	MW5-ROX-072611	7/26/2011		22.00	NE	<0.005	<0.005	0.0161	0.0031	0.0105	0.0017	<0.005	<0.005	<0.001	<0.005	0.0055	<0.005	<0.005	0.0074	<0.001	0.0074
	MW5-ROX-072611-DUP	7/26/2011	22.00	NE	<0.005	<0.005	0.016	0.0031	0.0104	0.0016	<0.005	<0.005	<0.001	<0.005	0.0055	<0.005	<0.005	0.0068	<0.001	0.0068	
	MW5-ROX-112111	11/21/2011	33.97 - 43.97	23.46	NE	<0.005	<0.005	<0.005	0.0069	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.005	<0.005	<0.005	0.0187	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.00081 U
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.005	<0.005	0.001 J	0.022	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW5-ROX-072512	7/25/2012	33.97 - 43.97		26.18	NE	<0.005 UJ	<0.005	0.0066	0.013	0.0018 J	0.0032	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.008	0.0017	0.0097
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.005		<0.005	0.0203	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005			
	MW6A-ROX-011911	1/19/2011		26.36	NE	<0.005		<0.005	0.0181	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.005	<0.005 UJ	<0.005	0.0277	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-072611	7/26/2011		23.76	NE	<0.005	<0.005	<0.005	0.0237	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-112111	11/21/2011	34.83 - 44.83	25.49	NE	<0.005	<0.005	<0.005	0.0169	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	<0.005	<0.005	<0.005	0.0181	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.005	<0.005	<0.005	0.0185	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW6A-ROX-080112	8/1/2012	34.83 - 44.83	28.36	NE	<0.005	<0.005	<0.005	0.0019	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.005		<0.005	0.00204 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005			
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005		<0.005	0.0016	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	0.0014 J		<0.005	0.0016	<0.005	<0.001	0.0016 J	0.0011 J	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6B-ROX-051611	5/16/2011		25.95	NE	<0.005	<0.005 UJ	<0.005	0.0029	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6B-ROX-051611-DUP	5/16/2011	25.95	NE	<0.005	<0.005 UJ	<0.005	0.0031	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW6B-ROX-072311	7/23/2011	23.60	NE	<0.005	<0.005	<0.005	0.0049	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW6B-ROX-110311	11/3/2011	24.67	NE	<0.05	<0.05	<0.05	0.036 J	<0.05	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	
	MW6B-ROX-011712	1/17/2012	26.77	NE	<0.005	<0.005	<0.005	0.0049	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW6B-ROX-050212	5/2/2012	27.82	NE	<0.005	<0.005	<0.005	0.0115	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
MW6B-ROX-080112	8/1/2012	64.05 - 69.05	28.39	NE	<0.005	<0.005	<0.005	0.0122	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001		
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005			
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.005		<0.005	0.0021	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.005	<0.005 UJ	<0.005	0.0034	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-072411	7/24/2011		23.43	NE	<0.005	<0.005	<0.005	0.0027	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001
	MW6C-ROX-110311	11/3/2011		24.47	NE	<0.005	<0.005	<0.005	0.0039 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-011712	1/17/2012		26.50	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-050212	5/2/2012		27.62	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW6C-ROX-080112	8/1/2012	84.95 - 89.95	28.15	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001		

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>		
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	MW6D-ROX-012111	1/21/2011		25.87	NE	<0.005		<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-011712	1/17/2012		26.33	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-050212	5/2/2012		27.45	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-080212	8/2/2012	104.72 - 109.72	30.56	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<1.25		<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25		
	MW-7-111710-Dup	11/17/2010		36.93	NE	<1.25		<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25	
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.005 UJ	<0.005 UJ	0.004 J J	<0.0057 U	0.0058 J	0.0907 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.0552 J	0.0133 J	<0.005 UJ	0.0694 J	0.0235 J		
	MW07-ROX-051311	5/13/2011		37.50	NE	<0.005 UJ	<0.005 UJ	0.0061 J	0.0109 J	0.0078 J	0.128 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.0822 J	0.0193 J	<0.005 UJ	0.101 J	0.0418 J	0.143 J	
	MW07-ROX-051311D	5/13/2011		37.50	NE	<0.005	<0.005	0.006	0.012	0.0078	0.126	<0.005	<0.005	<0.001	0.0825	0.0193	<0.005	0.0984	0.0405	0.139	
	MW7-ROX-072411	7/24/2011		35.65	NE	<25	<25	<25	<5	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5	
	MW-7-ROX-110211	11/2/2011		35.95	NE	<5	<5	<5	<1	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1	
	MW7-ROX-011812	1/18/2012	38.10	NE	<0.005	<0.005	0.0101	0.0022	0.0135	0.158	<0.005	<0.005	<0.001	0.148	0.0341	<0.005	0.137	0.0527	0.19		
	MW7-ROX-011812-DUP	1/18/2012	38.10	NE	<0.005	<0.005	0.01	0.0024	0.0138	0.156	<0.005	<0.005	<0.001	0.146	0.0332	<0.005	0.134	0.051	0.184		
	MW7-ROX-050412	5/4/2012	39.19	NE	<0.5	<0.5	<0.5	<0.1	<0.5	0.101	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1		
MW7-ROX-080712	8/7/2012	42.92 - 52.92	39.50	NE	<0.05	<0.05	<0.05	<0.01	0.0102 J	0.0629	<0.05	<0.05	<0.01	0.1	0.021 J	<0.05	0.12	0.0486	0.169		
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<1.25		<1.25	<1.25	<1.25	0.328 J	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25		
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005 UJ	<0.005 UJ	0.0104 J	0.21 J	0.0173 J	1.2 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.109 J	0.0332 J	<0.005 UJ	0.499 J	0.188 J		
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.005 UJ	<0.005 UJ	0.0105 J	0.205 J	0.017 J	1.12 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.11 J	0.0336 J	<0.005 UJ	0.518 J	0.191 J		
	MW08-ROX-051311	5/13/2011		28.35	NE	<50	<50	<50	<10	<50	<10	<50	<50	<10	<50	<50	<50	<10	<10	<10	
	MW08-ROX-051311D	5/13/2011		28.35	NE	<5	<5	<5	0.657 J	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1	
	MW8-ROX-072411	7/24/2011		26.02	NE	<25	<25	<25	<5	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5	
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	<25	<25	<25	<5	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5	
	MW-8-ROX-110211	11/2/2011		27.02	NE	<5	<5	<5	4.94 J	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1	
	MW8-ROX-011812	1/18/2012		29.15	NE	<0.005	<0.005	0.0162	1.41 J	0.0377	<2	<0.005	<0.005	<0.001	0.163	0.061	<0.005	0.574	0.219	0.794	
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.5	<0.5	<0.5	4.15	<0.5	1.55	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	0.978	0.37	1.35
	MW8-ROX-050412-DUP	5/4/2012	30.21	NE	<0.5	<0.5	<0.5	4.07	<0.5	1.52	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	0.939	0.381	1.32	
	MW8-ROX-080712	8/7/2012	33.60 - 43.60	30.97	NE	<0.1	<0.1	<0.1	0.878	0.0191 J	0.781	<0.1	<0.1	<0.02	0.104	0.0299 J	<0.1	0.623	0.246	0.868	
MW8-ROX-080712-DUP	8/7/2012	33.60 - 43.60	30.97	NE	<0.05	<0.05	<0.05	0.885	0.0176 J	0.729	<0.05	<0.05	<0.01	0.0921	0.0265 J	<0.05	0.598	0.235	0.833		
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	MW9-ROX-012111	1/21/2011		39.62	NE	<0.005		<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW9-ROX-072311	7/23/2011		38.06	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW9-ROX-011612	1/16/2012		39.50	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW9-ROX-050312	5/3/2012		41.03	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW9-ROX-072712	7/27/2012	46.45 - 56.45	41.30	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>		
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-072311	7/23/2011		38.01	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-072712	7/27/2012	44.43 - 54.43	41.21	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-072411	7/24/2011		34.3	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.005	<0.005	<0.005	0.003 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-011712	1/17/2012		37.44	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-072712	7/27/2012	41.66 - 51.66	38.90	NE	<0.005	<0.005 UJ	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
	MW12-ROX-072411	7/24/2011		35.55	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
		MW12-ROX-043012		4/30/2012	41.92 - 51.92	38.98	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001		
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.005	<0.005	<0.005	0.0061 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	
	MW13-ROX-080311	8/3/2011		21.67	NE	<0.005	<0.005	<0.005	0.004	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.005	<0.005	<0.005	0.0156 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.005	<0.005	<0.005	0.0066 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.005	<0.005	<0.005	0.0083	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
		MW13-ROX-080812		8/8/2012	25.57 - 35.57	26.67	NE	<0.005 UJ	<0.005 UJ	<0.005 UJ	0.0133 J	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42	NM	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	MW14-ROX-051012	5/10/2012		NM	NE	<0.005	<0.005	0.0104	<0.001	0.0078	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0016	0.00041 J	0.002	
	MW14-ROX-080312	8/3/2012		33.42 - 43.42	NM	NE	<0.005	<0.005	0.0173	<0.001	0.0137	0.00093 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0033	0.00061 J	0.0039

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs															
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>		
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-051111	5/11/2011		37.37	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-072411	7/24/2011		35.38	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-110311	11/3/2011		35.49	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-011712	1/17/2012		37.17	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-050412	5/4/2012		38.77	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-080212	8/2/2012		38.95	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.005	<0.005	<0.005	0.0012	<0.005	0.029	<0.005	<0.005	<0.001	0.0067	0.0056	<0.005	0.0466	0.0163	0.0629	
	P55-ROX-011912	1/19/2012		41.09	NE	<0.005	<0.005	0.0105 J	<0.001	0.0173	0.0337	<0.005	<0.005	<0.001	0.017	0.009	<0.005	0.205	0.0663	0.271	
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.005	<0.005	0.0105 J	<0.001	0.0176	0.0359	<0.005	<0.005	<0.001	0.0179	0.0097	<0.005	0.21	0.0649	0.275	
	P55-ROX-050912	5/9/2012		42.44	NE	<0.005	<0.005	0.0392	<0.001	0.0699	0.227	<0.005	<0.005	<0.001	0.158	0.0368	<0.005	0.885	0.112	0.97	
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	<0.005	<0.005	0.0512	<0.001	0.0463	0.0422	<0.005	<0.005	<0.001	0.0962	0.0226	<0.005	0.476	0.0332	0.509	
	P56-ROX-011912	1/19/2012		41.81	NE	<0.005	<0.005	0.0787 J	<0.001	0.0697	0.023	<0.005	<0.005	<0.001	0.0229	0.0077	<0.005	0.202	0.0161	0.218	
	P56-ROX-050812	5/8/2012		43.09	NE	<0.005	<0.005	0.0876	<0.001	0.111	0.197	<0.005	<0.005	<0.001	0.312	0.0708	<0.005	1.37	0.197	1.53	
	P56-ROX-080612	8/6/2012		43.60	NE	<0.025	<0.025 UJ	0.0442	<0.005	0.0439	0.0109	<0.025 UJ	<0.025 UJ	<0.005	0.0131 J	0.005 J	<0.025 UJ	0.11	0.0083	0.118	
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	<0.5	<0.5	<0.5	0.221	<0.5	<0.1	<0.5	<0.5	<0.1	0.615	<0.5	<0.5	1.02	<0.1	1.02	
	P57-ROX-021312	2/13/2012		42.13	NE	<2.5	<2.5	<2.5	<0.5	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	<2.5	0.502	<0.5	0.502
	P57-ROX-050712	5/7/2012		42.92	NE	<0.5	<0.5	<0.5	0.453	<0.5	<0.1	<0.5	<0.5	<0.1	0.632	0.159 J	<0.5	0.928	0.0563 J	0.984	
	P57-ROX-080612	8/6/2012		43.53	NE	<0.25	<0.25 UJ	<0.25	0.238	<0.25	0.0577	<0.25	<0.25	<0.05	0.506	0.123 J	<0.25 UJ	0.74	0.0328 J	0.773	
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	<0.005	<0.005 UJ	0.0432	0.212	0.0519	0.0558	<0.005	<0.005	<0.001	0.505 E	0.137	<0.005 UJ	0.692	0.0348	0.727	
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	<0.005	<0.005	0.0734	<0.001	0.0862	0.13	<0.005	<0.005	<0.001	<25	0.104	<0.005	0.575	0.101	0.677	
	P58-ROX-011912	1/19/2012		39.73	NE	<0.005	0.0097	0.108 J	0.0082	0.129 J	0.155 J	<0.005	<0.005	<0.001		0.14 J	0.0408 J	0.679	0.108	0.787	
	P58-ROX-011912-D	1/19/2012		39.73	NE	<0.005	<0.005	0.0832 J	0.0101 J	0.0993 J	0.119 J	<0.005	<0.005	<0.001	<5	0.11	<0.005 UJ	<1	<1	<1	
	P58-ROX-050712	5/7/2012		40.90	NE	<0.5	<0.5	<0.5	<0.1	0.106 J	0.137	<0.5	<0.5	<0.1	0.776	0.108 J	<0.5	0.666	0.0982 J	0.764	
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	<0.5	<0.5	<0.5	<0.1	0.108 J	0.145	<0.5	<0.5	<0.1	0.757	0.109 J	<0.5	0.636	0.0968 J	0.733	
	P58-ROX-080612	8/6/2012		41.63	NE	<0.1	<0.1 UJ	0.0649 J	<0.02	0.0909 J	0.117	<0.1	<0.1	<0.02	0.705	0.0955 J	<0.1 UJ	0.652	0.0976	0.749	
P-59	P58-ROX-080612-DUP	8/6/2012	41.63	NE	<0.05	<0.05	0.0718	<0.01	0.0996	0.128	<0.05	<0.05	<0.01	0.737	0.102	<0.05	0.656	0.104	0.759		
	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	<0.25	<0.25	<0.25	<0.05	<0.25	0.321	<0.25	<0.25	<0.05	0.477	<0.25	<0.25	3.11	0.312	3.42	
	P59-ROX-011912	1/19/2012		42.88	NE	<0.005	<0.005	0.0713	<0.001	0.128	0.896	<0.005	<0.005	<0.001	0.483 J	0.198	<0.005	3.03	0.587	3.62	
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	<0.005	<0.005	0.0733	<0.001	0.133	0.931	<0.005	<0.005	<0.001	0.536	0.203	<0.005	3.21	0.587	3.8	
	P59-ROX-050912	5/9/2012		44.11	NE	<0.25	<0.25	0.0585 J	<0.05	0.123 J	2.35	<0.25	<0.25	<0.05	0.67	0.171 J	<0.25	4.56	1.08	5.64	
P59-ROX-080212	8/2/2012	44.07		NE	<0.1	<0.1	0.0452 J	<0.02	0.0974 J	0.506	<0.1	<0.1	<0.02	0.563	0.158	<0.1	4.35	0.376	4.73		
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	<0.005	<0.005	0.158	0.0845 J	0.188	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	
	P66-ROX-051012	5/10/2012		32.48	NE	<0.005	<0.005	0.123	0.0771	0.152	0.0021	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0012	0.0012	0.0024	
	P66-ROX-080312	8/3/2012		30.51	NE	<0.005	<0.005	0.0874	0.103	0.112	0.0013	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0011	0.0011	0.0022	
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	<0.005	<0.005	0.0123	0.0222	0.0222	0.669	<0.005	<0.005	<0.001	0.587	0.162	<0.005	0.177	<0.1	0.177	
	P74-ROX-011912	1/19/2012		38.77	NE	<0.005	<0.005	<0.005	<0.001	0.0012 J	0.0038	<0.005	<0.005	<0.001	0.0292	0.0126	<0.005	0.0526	0.0262	0.0788	
	P74-ROX-050712	5/7/2012		39.92	NE	<0.005	<0.005	<0.005	<0.001	0.001 J	0.0017	<0.005	<0.005	<0.001	0.0155	0.0063	<0.005	0.0273	0.0093	0.0366	
	P74-ROX-080612	8/6/2012		40.71	NE	<0.05	<0.05 UJ	<0.05	<0.01	<0.05	0.159	<0.05	<0.05	<0.01	0.187	0.0663	<0.05 UJ	0.388	0.125	0.512	

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>	
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<1.25		<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	0.543 J	<1.25	
	P93A-ROX_012611	1/26/2011		40.97	NE	0.0016 J		0.0225	0.124	0.0254	0.0654	0.0026 J	0.0015 J	0.0017	0.21	0.045	<0.005 UJ	0.622	0.0705	
	P93A-ROX-050511	5/5/2011		41.88	NE	<0.005	<0.005 UJ	0.0206 J	0.0684 J	0.0228 J	0.0718 J	<0.005	<0.005	<0.001	0.169 J	0.0293 J	<0.005	0.628 J	0.0707 J	0.699 J
	P93A-ROX-081811	8/18/2011		39.40	NE	<0.005	<0.005	0.0236 J	0.0356	0.0254	0.0678	<0.005	<0.005	<0.001	0.237	0.0495	<0.005 UJ	0.745	0.09	0.835
	P93A-ROX-102611	10/26/2011		39.43	NE	<0.005	<0.005	0.0189	0.0405	0.0172	0.0438	<0.005 UJ	<0.005	<0.001	0.171	0.0399	<0.005	0.482	0.0614	0.543
	P93A-ROX-012012	1/20/2012		41.66	NE	<0.005	0.0041 J	0.0134	0.0604	0.0134	0.0196	<0.005	<0.005	<0.001	0.101	0.025	<0.005 UJ	0.292	0.0416	0.333
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.005 UJ	<0.005 UJ	0.0218 J	0.0557 J	0.0239 J	0.0407 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.194 J	0.0416 J	<0.005 UJ	0.647 J	0.0841 J	0.731 J
	P93A-ROX-080912	8/9/2012		43.66	NE	<0.005	<0.005	0.0126	0.0485	0.0137	0.0091	<0.005	<0.005	<0.001	0.145	0.0273	<0.005	0.436	0.0642	0.5
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5		
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.005		0.0108	0.0088	0.011	0.0321	<0.005	<0.005	<0.001	0.0052	0.0016 J	<0.005 UJ	0.0555	0.0092	
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.005	<0.005 UJ	0.0142	0.0113	0.0151	0.0488	<0.005	<0.005	<0.001	0.0057	0.0014 J	<0.005	0.0502	0.0112	0.0614
	P93B-ROX-081811	8/18/2011		39.44	NE	<5	<5	<5	<1	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.005	<0.005	0.0292	<0.001	0.0359	0.0859	<0.005 UJ	<0.005	<0.001	0.0303	0.0082	<0.005	0.167	0.0352	0.202
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.005	<0.005	0.022 J	0.0063 J	0.0244 J	0.0678 J	<0.005	<0.005	<0.001	0.0114 J	0.0028 J J	<0.005 UJ	0.0598 J	0.0224 J	0.0822 J
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.005	<0.005	0.0188 J	<0.001	0.0272 J	0.0512 J	<0.005	<0.005	<0.001	0.0196 J	0.0054 J	<0.005	0.116 J	0.0251 J	0.141 J
	P93B-ROX-080912	8/9/2012		43.69	NE	<0.005	<0.005	0.0266	<0.001	0.0406	0.0786	<0.005	<0.005	<0.001	0.0372	0.0107	<0.005	0.245	0.0468	0.292
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.005		<0.005	0.00136 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005		
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.005		0.0019 J	0.0014	0.0013 J	0.0067	<0.005	<0.005	<0.001	0.0025 J	<0.005	<0.005 UJ	0.0051	0.0035	
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.005	<0.005 UJ	<0.005	0.0052	<0.005	0.0018	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	0.00059 J
	P93C-ROX-081811	8/18/2011		39.32	NE	<0.005	<0.005	<0.005	0.0067	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.005	<0.005	<0.005	0.0096	<0.005	<0.001	<0.005 UJ	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.005	<0.005	<0.005	0.006	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.005	<0.005	<0.005	0.004	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-080912	8/9/2012		43.57	NE	<0.005	<0.005	<0.005	0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-93D	P93D-102610	10/26/2010	125.44 - 127.44	40.59	NE	<0.005		<0.005	0.0122	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005			
	P93D-ROX-050511	5/5/2011		41.96	NE	<0.005	<0.005 UJ	<0.005	0.0014	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-081811	8/18/2011		39.46	NE	<0.005	<0.005	<0.005	0.00095 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.005	<0.005	<0.005	0.004 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.005	<0.005	<0.005	0.00077 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-080812	8/8/2012		43.71	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.005	<0.005	<0.005	0.0036 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.001	<0.001	
	P114-ROX-012012	1/20/2012		27.17	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.001	<0.001	
	P114-ROX-050912	5/9/2012		28.09	NE	<0.005	<0.005	<0.005	0.0035 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.001	<0.001	
	P114-ROX-080912	8/9/2012		29.13	NE	<0.005	<0.005	<0.005	0.00083 J	<0.005	<0.001	<0.005	<0.005	<0.001	0.00039 J	<0.005	<0.005	<0.001	<0.001	<0.001
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.005	<0.005	<0.005	<0.001	0.00096 J	0.0038	<0.005	<0.005	<0.001	0.0095	0.0023 J	<0.005	0.0607	0.0151	0.0758
	ROST3PZ-ROX-080712	8/7/2012	40.00 - 50.00	39.00	NE	<0.005	<0.005	<0.005	<0.001	<0.005	0.0015	<0.005	<0.005	<0.001	0.0042 J	0.0012 J	<0.005	0.0289	0.0074	0.0363
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	ROST4PZ-C-ROX-072512	7/25/2012	34.95 - 44.95	39.10	NE	<0.005 UJ	<0.005	0.0036 J	<0.001	0.0059	0.0596	<0.005	<0.005	<0.001	0.0374	0.0076	<0.005	0.373	0.207	0.581

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs														
						Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
Screening Values (mg/L)						0.007 <sup>3</sup>		0.7 <sup>3</sup>	0.070 <sup>1</sup>	0.7 <sup>3</sup>	1 <sup>1</sup>	0.0056 <sup>3</sup>	0.02 <sup>2</sup>	0.005 <sup>2</sup>		0.07 <sup>3</sup>	7.0 <sup>2</sup>	10	10 <sup>1</sup>	
T-12	T12-ROX-102711	10/27/2011		38.54	NE	<0.05	<0.05	<0.05	<0.01	<0.05	0.233	<0.05	<0.05	<0.01	0.358	0.0527	<0.05	1.13	0.108	1.24
	T12-ROX-011912	1/19/2012	46.72 - 72.72	41.0	NE	<0.005	<0.005	0.022	0.0016	0.03	0.175	<0.005	<0.005	<0.001	0.34	0.0715	0.0952	0.684	0.0399	0.724
	T12-ROX-050912	5/9/2012		42.62	NE	<0.025	<0.025	0.0572	<0.005	0.101	0.388	<0.025	<0.025	<0.005	0.476	0.0765	<0.025	2.87	0.251	3.12
	T12-ROX-080212	8/2/2012	46.72 - 72.72	41.92	NE	<0.05	<0.05	0.0297 J	<0.01	0.0486 J	0.197	<0.05	<0.05	<0.01	0.403	0.0474 J	<0.05	1.32	0.0709	1.39

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>	
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.049	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.0025	<0.0063	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013 UJ	<0.013	<0.0063	<0.00077 U	<0.0063	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013
	MW1-ROX-072711	7/27/2011		35.77	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW1-ROX-120511	12/5/2011	37.10	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000056 U	<0.0001	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
	MW1-ROX-011612	1/16/2012	48.80 - 58.80	37.75	NE	0.000077 J	0.000035 J	0.000062 J	0.00011	0.0001	0.00011	<0.00011 U	0.00012	<0.01 UJ	<0.01	<0.0051	<0.002	<0.00039 U	0.00011	<0.00011 U	<0.0051	<0.01	<0.0051	<0.01	
	MW1-ROX-050112	5/1/2012	39.09	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
MW1-ROX-073012	7/30/2012	48.80 - 58.80	39.39	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	0.00032 J	<0.011		
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0082 J	<0.0048	0.25	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048	0.0022 J	
	MW2-ROX-051011	5/10/2011		39.14	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.000052 UJ	<0.0001 UJ	<0.000052 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	0.0019 J	<0.0052	<0.0029 U	<0.0052 UJ	<0.0001 UJ	<0.0001 UJ	<0.0052	<0.01	0.0016 J	<0.01	
	MW2-ROX-072711	7/27/2011		37.04	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW2-ROX-072711-DUP	7/27/2011		37.04	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW2-ROX-112811	11/28/2011	49.87 - 59.87	38.03	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW2-ROX-011612	1/16/2012	38.89	NE	0.000057 J	<0.00011	<0.00011	<0.000053	0.000033 J	0.00004 J	<0.000047 U	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.00083 U	<0.00047 U	<0.00011	<0.000047 U	<0.0053	<0.011	<0.0053	0.0035 J		
	MW2-ROX-050112	5/1/2012	40.25	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	0.0055 J		
MW2-ROX-073012	7/30/2012	49.87 - 59.87	40.60	NE	0.000051 J	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.00059 J	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	0.00036 J	0.0045 J		
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	0.00062 J	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.011	
	MW3-ROX-051011	5/10/2011		24.79	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0025 U	0.0064 J	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01	
	MW3-ROX-080311	8/3/2011		22.72	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	0.0084	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	
	MW3-ROX-112911	11/29/2011		24.06	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	
	MW3-ROX-112911-DUP	11/29/2011	24.06	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01		
	MW3-ROX-011612	1/16/2012	24.93	NE	<0.0001	<0.0001	0.000063 J	0.00011	0.00012	0.00013	<0.00013 U	0.00012	<0.01 UJ	<0.01	<0.0052	<0.0004 U	<0.00039 U	0.000098 J	<0.00013 U	<0.0052	<0.01	<0.0052	<0.01		
	MW3-ROX-043012	4/30/2012	26.19	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01		
MW3-ROX-072712	7/27/2012	34.67 - 44.67	26.60	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011	<0.011	<0.0053	<0.00067 U	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011		
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009		
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.01	
	MW4-ROX-051111	5/11/2011		36.19	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0023 U	0.0063 J	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01	
	MW4-ROX-072611	7/26/2011		34.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0102	<0.01	<0.005	<0.0057 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW4-ROX-072611-DUP	7/26/2011		34.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0103	<0.01	<0.005	<0.002 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW4-ROX-121511	12/15/2011	33.99	NE	<0.0001	0.00011	<0.0001	<0.000052	0.00012	<0.000087 U	<0.00063 U	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0028 U	<0.0052	<0.0001	<0.00035 U	<0.0052	<0.01	<0.0052	<0.01		
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	<0.0001	<0.0001	0.00003 J	0.00012	0.00012	0.00013	<0.0002 U	0.00015	<0.01 UJ	<0.01	<0.0052	<0.0005 U	<0.00073 U	0.00014	<0.00019 U	<0.0052	<0.01	<0.0052	<0.01	
	MW4-ROX-050312	5/3/2012	37.45	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01		
	MW4-ROX-050312-DUP	5/3/2012	37.45	NE	<0.000																				



**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	0.0009 J	<0.011
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000053 UJ	<0.00011 UJ	<0.000053 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011 UJ	<0.00011 UJ	<0.0053	<0.011	<0.0053	<0.011
	MW5-ROX-072611	7/26/2011		22.00	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW5-ROX-072611-DUP	7/26/2011	22.00	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW5-ROX-112111	11/21/2011	23.46	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	0.00079 J	<0.0053	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	
	MW5-ROX-011712	1/17/2012	24.76	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.0015 U	<0.00049 U	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	
	MW5-ROX-050312	5/3/2012	25.89	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
MW5-ROX-072512	7/25/2012	26.18	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.00064 U	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	0.0011 J	<0.01		
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW6A-ROX-011911	1/19/2011		26.36	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0044 J J	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.019 U	
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0026	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00083 U	
	MW6A-ROX-072611	7/26/2011		23.76	NE	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	
	MW6A-ROX-112111	11/21/2011	25.49	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	0.0023	0.00077 J	<0.0001	<0.0001	<0.0052	<0.01	<0.0052		
	MW6A-ROX-112111-DUP	11/21/2011	25.49	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	0.0011 J	0.00054 J	<0.0001	<0.0001	<0.0051	<0.01	<0.0051		
	MW6A-ROX-011712	1/17/2012	26.74	NE	<0.00011	<0.00011	<0.00011	<0.000064 U	<0.00008 U	<0.00009 U	<0.00015 U	0.000094 J	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00014 U	<0.0054	<0.011	<0.0054		
	MW6A-ROX-050212	5/2/2012	27.77	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0029 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005		
MW6A-ROX-080112	8/1/2012	28.36	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005			
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01 UJ	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.00087 U		
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ	<0.0051	<0.002	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U		
	MW6B-ROX-051611	5/16/2011		25.95	NE	<0.000095 UJ	0.000098 J	<0.000095 UJ	<0.000048 UJ	<0.000095 UJ	<0.000048 UJ	<0.000095 UJ	<0.000095 UJ	<0.0095	<0.0095	<0.0048	0.0023	<0.0048	<0.000095 UJ	<0.000095 UJ	<0.0048	<0.0095	<0.00078 U	
	MW6B-ROX-051611-DUP	5/16/2011	25.95	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0024	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00096 U			
	MW6B-ROX-072311	7/23/2011	23.60	NE	<0.00011	<0.00011	<0.00011	<0.00075 U	<0.0002 U	<0.00019 U	<0.00007 U	<0.00023 U	<0.011 UJ	<0.011	<0.0053	0.00077 J	<0.0053	<0.0008 U	<0.000031 U	<0.0053	<0.011	<0.0053		
	MW6B-ROX-110311	11/3/2011	24.67	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01		
	MW6B-ROX-011712	1/17/2012	26.77	NE	<0.00011	<0.00011	<0.00011	<0.000055	<0.00015 U	<0.00011 U	<0.00028 U	0.0001 J	<0.011 UJ	<0.011	<0.0055	<0.0011 U	<0.0055	<0.00011	<0.00027 U	<0.0055	<0.011	<0.0055		
	MW6B-ROX-050212	5/2/2012	27.82	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005			
MW6B-ROX-080112	8/1/2012	28.39	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.00049 J	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051			
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.00084 U		
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.0001 UJ	0.000046 J J	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0025	0.0064	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00063 U	
	MW6C-ROX-072411	7/24/2011		23.43	NE	<0.00011	<0.00011	<0.00011	0.00016 B	0.00013 B	0.00014 B	0.000041 J	0.00016 B	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	0.00015 B	<0.00011	<0.0053	<0.011	<0.0053	
	MW6C-ROX-110311	11/3/2011	24.47	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005		
	MW6C-ROX-011712	1/17/2012	26.50	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.00046 U	<0.00011	<0.00011	<0.0054	<0.011	<0.0054		
	MW6C-ROX-050212	5/2/2012	27.62	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005		
MW6C-ROX-080112	8/1/2012	28.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005			

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>	
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW6D-ROX-012111	1/21/2011		25.87	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011	
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	0.0027	0.0069	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.00085 U	<0.011	
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.00011	<0.00011	<0.00011	<0.00038 U	<0.00015 U	<0.00017 U	<0.000049 U	<0.00019 U	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	<0.00039 U	<0.00011	<0.0053	<0.011	<0.0053	<0.011	
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01 UJ	
	MW6D-ROX-011712	1/17/2012		26.33	NE	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0055	<0.0022	<0.0055	<0.00011	<0.00011	<0.0055	<0.011	<0.0055	<0.011	
	MW6D-ROX-050212	5/2/2012		27.45	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.0044 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW6D-ROX-080212	8/2/2012		104.72 - 109.72	30.56	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	0.00022 J	<0.01
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.005 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW-7-111710-Dup	11/17/2010		36.93	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.007 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.003 U	<0.011	
	MW07-ROX-051311	5/13/2011		37.50	NE	0.00011 J	<0.00011 UJ	0.000031 J J	<0.000054 UJ	<0.00011 UJ	<0.000054 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0054	<0.0032 U	<0.0071 U	<0.00011 UJ	<0.00011 UJ	<0.0054	<0.011	<0.00097 U	<0.011	
	MW07-ROX-051311D	5/13/2011		37.50	NE	0.00011 J	<0.00011 UJ	0.000034 J J	<0.000055 UJ	0.000018 J J	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	<0.0035 U	<0.007 U	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0055	<0.011	
	MW7-ROX-072411	7/24/2011		35.65	NE	0.0001 J	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	0.000018 J	<0.00011	<0.0054	<0.011	<0.0054	<0.011	
	MW-7-ROX-110211	11/2/2011		35.95	NE	<0.00026 U	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ	
	MW7-ROX-011812	1/18/2012		38.10	NE	0.00025	<0.0001	<0.0001	<0.00005	<0.000024 U	<0.00005	<0.0001	<0.0001	<0.011 UJ	<0.011	<0.005	<0.002	0.00049 J	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	0.00027	<0.00011	<0.00011	<0.000056	<0.00003 U	<0.000056	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0056	0.00044 J	0.00048 J	<0.00011	<0.00011	<0.0056	<0.011	<0.0056	<0.011	
	MW7-ROX-050412	5/4/2012		39.19	NE	0.00028	<0.0001	<0.0001	0.00011	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00071 J	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	
MW7-ROX-080712	8/7/2012	42.92 - 52.92	39.50	NE	0.00024	0.000037 J	0.000022 J	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0006 J	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.00058 U	<0.01		
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.006 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	0.00086 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.0025 U	0.0233	
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.011	<0.011	<0.0057	0.0012 J	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.011	0.0125	0.0299	
	MW08-ROX-051311	5/13/2011		28.35	NE	0.00035 J	<0.00011 UJ	0.000063 J J	<0.000055 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	<0.0031 U	<0.0055	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0018 U	0.0225	
	MW08-ROX-051311D	5/13/2011		28.35	NE	0.00029 J	<0.00011 UJ	0.000054 J J	<0.000056 UJ	<0.00011 UJ	<0.000056 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0056	<0.0034 U	<0.0056	<0.00011 UJ	<0.00011 UJ	<0.0056	<0.011	<0.0011 U	0.0232	
	MW8-ROX-072411	7/24/2011		26.02	NE	0.00029	<0.00011	0.000067 J	0.00013 B	0.00016 B	0.00016 B	0.00016 B	0.000048 J	0.00017 B	<0.011 UJ	<0.011	<0.0054	0.0019 J	<0.0054	0.000099 JB	<0.00011	<0.0054	<0.011	<0.0054	0.0228
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	0.00027	<0.00011	0.000062 J	0.00012 B	0.00019 B	0.00018 B	0.000058 J	0.00021 B	<0.011 UJ	<0.011	<0.0055	0.0013 J	<0.0055	0.000099 JB	<0.00011	<0.0055	<0.011	<0.0055	0.0213	
	MW-8-ROX-110211	11/2/2011		27.02	NE	<0.00023 U	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	0.0383 J	
	MW8-ROX-011812	1/18/2012		29.15	NE	0.00038 J	<0.00053	<0.00053	<0.00026	<0.00053	<0.00026	<0.00053	<0.00053	<0.011 UJ	<0.011	<0.0053	0.00052 J	0.00042 J	<0.00053	<0.00053	0.0006 J	<0.011	<0.0053	0.015	
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0204	<0.011	<0.0053	0.00053 J	<0.0053	<0.00011	<0.00011	0.00044 J	<0.011	<0.0053	0.0595	
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00047 J	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0557	
	MW8-ROX-080712	8/7/2012		33.60 - 43.60	30.97	NE	0.00023	0.00013	0.000055 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	0.00051 J	<0.0054	<0.00011	<0.00011	0.00035 J	<0.011	<0.0016 U	0.015
	MW8-ROX-080712-DUP	8/7/2012		30.97	NE	0.0002	0.00029	0.000071 J	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011	<0.011	<0.0056	0.00043 J	<0.0056	<0.00011	<0.00011	0.0004 J	<0.011	<0.0018 U	0.0158	
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.001 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	MW9-ROX-012111	1/21/2011		39.62	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011		
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.000097 UJ	<0.000097 UJ	<0.000097 UJ	<0.000049 UJ	<0.000097 UJ	<0.000049 UJ	<0.000097 UJ	<0.000097 UJ	<0.0097	<0.0097	<0.0049	<0.0019	<0.0049	<0.000097 UJ	<0.000097 UJ	<0.0049	<0.0097	<0.0018 U	<0.0097	
	MW9-ROX-072311																								

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>	
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.0051	0.00068 J	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U	<0.01
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	0.00071 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.0012 U	<0.01
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095 UJ	<0.0095	<0.0048	<0.00051 U	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048	<0.0095
	MW10-ROX-072311	7/23/2011		38.01	NE	<0.0001	<0.0001	<0.0001	<0.00025 U	<0.00013 U	<0.00014 U	<0.000039 U	<0.00017 U	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.00027 U	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.00011	<0.00011	0.000027 J	0.000037 J	0.000031 J	0.000043 J	<0.000042 U	<0.00011	<0.011 UJ	<0.011	<0.0053	0.0255	<0.0013 U	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.0001	<0.0001	0.000018 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052
MW10-ROX-072712	7/27/2012	44.43 - 54.43	41.21	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001 UJ	<0.0001	<0.01	<0.01	<0.005	<0.00067 U	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01		
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.0073 J	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.001 U	<0.01	
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.000095 UJ	<0.000095 UJ	<0.000095 UJ	<0.000042 UJ	<0.000095 UJ	0.000025 J J	0.000022 J J	0.000014 J J	<0.0095	<0.0095	<0.0048	<0.0028 U	<0.0048	0.000037 J J	<0.000095 UJ	<0.0048	<0.0095	<0.0009 U	<0.0095	
	MW11-ROX-072411	7/24/2011		34.3	NE	<0.00011	<0.00011	<0.00011	0.00013 B	0.00012 B	0.00013 B	0.000035 J	0.00014 B	<0.011 UJ	<0.011	<0.0056	<0.0022	<0.0056	0.00013 B	<0.00011	<0.0056	<0.011	<0.0056	<0.011	
	MW11-ROX-110211	11/2/2011		35.44	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011 UJ	
	MW11-ROX-011712	1/17/2012		37.44	NE			0.000022 J J				0.000065 J J													
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
MW11-ROX-072712	7/27/2012	41.66 - 51.66	38.90	NE	<0.00012	<0.00012	<0.00012	<0.000058	<0.00012	<0.000058	<0.00012 UJ	<0.00012	<0.012	<0.012	<0.0058	<0.00056 U	<0.0058	<0.00012	<0.00012	<0.0023	<0.012	<0.0058	<0.012		
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.00077 U		
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	0.000019 J J	<0.0001 UJ	<0.005	<0.01	<0.005		
	MW12-ROX-072411	7/24/2011		35.55	NE	<0.0001	<0.0001	<0.0001	0.000072 B	0.00014 B	0.00014 B	0.000053 J	0.00019 B	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000072 JB	0.000031 JB	<0.005	<0.01 UJ	<0.005		
	MW12-ROX-110211	11/2/2011		35.70	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048		
	MW12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048		
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00016 U	<0.00013 U	<0.00021 U	0.00013	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.00029 U	<0.00011	<0.00021 U	<0.0054	<0.011	<0.0054		
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.00011	<0.00011	<0.00011	<0.000056	<0.000039 U	<0.00004 U	<0.00067 U	<0.00011	<0.011 UJ	<0.011	<0.0056	<0.0022	<0.00033 U	<0.00011	<0.000051 U	<0.0056	<0.011	<0.0056		
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051		
MW12-ROX-072712	7/27/2012	41.92 - 51.92	39.22	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011	<0.011	<0.0053	<0.0019 U	0.00029 J	<0.00011	<0.00011	<0.0021	<0.011	<0.0053			
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0027 U			
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.000095 UJ	0.000067 J J	0.000059 J J	0.000042 J J	0.000016 J J	<0.00005 UJ	<0.000099 UJ	<0.000099 UJ	<0.0099	<0.0099	<0.005	<0.0027 U	<0.005	0.000059 J J	<0.000099 UJ	<0.005	<0.0099			
	MW13-ROX-080311	8/3/2011		21.67	NE	<0.0001	<0.0001	0.00011	0.000037 J	0.000039 J	0.000037 J	0.000053 J	0.000036 J	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000036 J	<0.0001	<0.005	<0.01			
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011	<0.011	<0.0056	<0.0022	<0.0056	<0.00011	<0.00011	<0.0056	<0.011			
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.00011	0.00014	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0087 J J	<0.011	<0.0053	<0.0007 U	<0.0007 U	<0.00011	<0.00011	<0.0053	<0.011			
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01			
MW13-ROX-080812	8/8/2012	25.57 - 35.57	26.67	NE	0.0001 J	0.00019	0.000063 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011				
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42	NM	NE	<0.00011	<0.00011 UJ	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0053	<0.011			
	MW14-ROX-051012	5/10/2012		NM	NE	0.00046	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.00042 U	<0.0052	<0.0001	<0.0001	<0.0052	0.00084 J			
	MW14-ROX-																								

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																				
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol		
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>		
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.002 U	<0.01	
	P54-ROX-051111	5/11/2011		37.37	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000054 UJ	0.0001 J J	<0.000054 UJ	<0.00011 UJ	<0.00011 UJ	<0.01	<0.01	<0.005	<0.0024 U	<0.005 UJ	0.000019 J J	<0.00011 UJ	<0.005	<0.01	<0.005 UJ	<0.01	<0.005 UJ	<0.01
	P54-ROX-072411	7/24/2011		35.38	NE	<0.0001	<0.0001	<0.0001	0.000079 B	0.00014 B	0.00015 B	0.000053 J	0.00017 B	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000081 JB	0.00002 JB	<0.005	<0.01	<0.005	<0.01	<0.005	<0.01
	P54-ROX-110311	11/3/2011		35.49	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.01
	P54-ROX-011712	1/17/2012		37.17	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.000024 U	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.01
	P54-ROX-050412	5/4/2012		38.77	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	0.0045 J	<0.01	<0.0051	0.0133	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.01
P54-ROX-080212	8/2/2012	38.95	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.011		
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0022	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01		
	P55-ROX-011912	1/19/2012		41.09	NE	0.00017	<0.0001	<0.0001	<0.000052	0.000022 J	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.0052	<0.0021	<0.00048 U	<0.0001	<0.0001	0.00035 J	<0.01	<0.0052	<0.01			
	P55-ROX-011912-D	1/19/2012		41.09	NE	0.00015	<0.00011	<0.00011	<0.000054	0.000067 J	0.000061	0.00011	0.000071 J	<0.011 UJ	<0.0054	<0.0022	<0.00035 U	<0.00011	0.000086 J	0.00033 J	<0.011	<0.0054	<0.011			
	P55-ROX-050912	5/9/2012		42.44	NE	0.00036	0.000095 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01		
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	0.0007	0.00013	0.00013	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0026	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01		
	P56-ROX-011912	1/19/2012		41.81	NE	0.00064	<0.0001	0.00011	<0.000051	0.000021 J	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.0051	<0.00066 U	<0.00053 U	<0.0001	<0.0001	0.00064 J	<0.01	<0.0051	<0.01			
	P56-ROX-050812	5/8/2012		43.09	NE	0.00057	0.0001	<0.0001	<0.00011 U	<0.00012 U	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01		
	P56-ROX-080612	8/6/2012		43.60	NE	0.00058	0.000087 J	0.00013	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	0.00051 J	<0.01	<0.0014 U	<0.01		
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	0.00055	<0.00054	<0.00054	<0.00027	<0.00054	<0.00027	<0.00054	<0.00054	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00054	<0.00054	<0.0054	<0.011	<0.0054	<0.011		
	P57-ROX-021312	2/13/2012		42.13	NE	0.00056	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.00043 J	<0.00043 U	<0.0001	<0.0001	0.00087 J	<0.01	<0.0051	0.0045 J		
	P57-ROX-050712	5/7/2012		42.92	NE	0.00033	<0.0001	<0.0001	0.00011	0.00012	<0.000052	<0.0001	<0.0001	<0.01	<0.01	0.0008 J	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01		
	P57-ROX-080612	8/6/2012		43.53	NE	0.00056	0.0001	0.000073 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.00079 J	<0.01	<0.00096 U	0.0029 J		
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	0.00051	0.0001	0.000064 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.00073 J	<0.01	<0.001 U	0.0029 J		
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	0.0011	<0.000097	<0.000097	<0.000049	<0.000097	<0.000049	<0.000097	<0.000097	<0.0097	<0.0097	<0.0049	0.003	<0.0049	<0.000097	<0.000097	<0.0049	<0.0097	<0.0049	<0.0097		
	P58-ROX-011912	1/19/2012		39.73	NE	0.001	<0.00011	<0.00011	0.000039 J	0.000051 J	0.000032 J	0.000047 J	<0.00011	<0.011 UJ	<0.0053	0.0361 J	<0.00059 U	<0.00011	<0.00011	0.0026 J	<0.011	<0.0053	<0.011			
	P58-ROX-011912-D	1/19/2012		39.73	NE	0.00092	<0.00011	<0.00011	0.000036 J	0.000036 J	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.0053	0.024 J	<0.0053	<0.00011	<0.00011	0.0023 J	<0.011	<0.0053	<0.011			
	P58-ROX-050712	5/7/2012		40.90	NE	0.00059	0.00019	0.00057 J	0.00017	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	0.0017 J	<0.01	<0.0051	<0.01		
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	0.00044	0.00015	<0.0001 UJ	0.00015	0.000032 J	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01		
	P58-ROX-080612	8/6/2012		41.63	NE	0.00086	0.00029	0.000094 J	0.00024	0.00011	0.000064	0.000043 J	<0.0001	<0.01	<0.01	<0.005	0.00043 J	<0.005	0.0001	<0.0001	0.0022	<0.01	<0.005	<0.01		
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	0.00098	0.0003	0.00011	0.00021	0.000098 J	0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00042 J	<0.005	0.000099 J	<0.0001	0.0025	<0.01	<0.005	<0.01		
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	0.00077	0.00012	0.00046	0.00019	<0.00011	0.000073	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.0028	<0.0053	0.00034	<0.00011	<0.0053	<0.011	<0.0053	<0.011		
	P59-ROX-011912	1/19/2012		42.88	NE	0.00036	<0.00011	0.00025	0.000055 J	0.000038 J	0.000037 J	0.000052 J	<0.00011	0.0011 J	<0.0057	<0.00079 U	<0.0011 U	0.000085 J	<0.00011	<0.0057	<0.011	<0.0057	0.0133			
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	0.00037	<0.0001	0.00015	0.00005 J	0.000029 J	0.000027 J	<0.0001	<0.0001	0.00091 J	<0.0051	<0.002	<0.00061 U	0.000074 J	<0.0001	0.00042 J	<0.01	<0.0051	0.0108			
	P59-ROX-050912	5/9/2012		44.11	NE	0.00022	<0.0001	0.000095 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0161	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0085 J		
	P59-ROX-080212	8/2/2012		44.07	NE	0.00042	0.0001 J	0.00014	0.00021	0.000036 J	0.000047 J	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	0.00036 J	<0.011	<0.0053	0.0088 J		
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	0.0018	<0.0001	<0.0001	<0.000095 U	<0.0001	<0.000088 U	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.00011 U	<0.0001	<0.005	<0.01	<0.005	<0.01		
	P66-ROX-051012	5/10/2012		32.48	NE	0.00078	<0.0001	<0.0001	<0.00005	<0.0001	0.000024 J	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.00053 U	<0.005	<0.0001	<0.0001	0.0018 J	<0.01	<0.005	<0.01		
	P66-ROX-080312	8/3/2012		30.51	NE	0.00																				

TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>	
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	
	P93A-ROX_012611	1/26/2011		40.97	NE	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098 UJ	<0.0049	<0.002	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098	<0.0014 U	<0.0098
	P93A-ROX-050511	5/5/2011		41.88	NE	0.00026 J	<0.0001 UJ	0.000035 J J	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001 UJ	<0.0001 UJ	0.00035 J	<0.01	<0.00073 U	<0.01
	P93A-ROX-081811	8/18/2011		39.40	NE	0.00036	<0.0001	0.000058 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.003	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.0029 U	<0.01
	P93A-ROX-102611	10/26/2011		39.43	NE	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0075	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P93A-ROX-012012	1/20/2012		41.66	NE	0.00014	<0.000095	0.000032 J	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	<0.006 U	<0.00053 U	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0029	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P93A-ROX-080912	8/9/2012		43.66	NE	0.00015	<0.00011	0.000048 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.00011	0.0032 J	<0.011	<0.0054	0.0153	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ	<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.00086 U	<0.011	
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01	
	P93B-ROX-081811	8/18/2011		39.44	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.001 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0021 U	<0.01	
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0103	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.000095	0.000028 J	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	<0.0033 U	<0.00033 U	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
P93B-ROX-080912	8/9/2012	43.69	NE	<0.00011	0.000087 J	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	0.0036	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.00051 U	<0.011			
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047	<0.009	<0.001 U	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ	<0.0051	<0.002	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.00097 U	<0.01	
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.0001 UJ	0.000041 J J	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0022 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01	
	P93C-ROX-081811	8/18/2011		39.32	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0092	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.0015 U	<0.01	
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.0001	<0.0001	<0.0001	<0.000051	0.000019 J	0.000027 J	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.0096 U	<0.00037 U	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.00011	<0.00011	<0.00011	<0.00012 U	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.008	<0.0053	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	
P93C-ROX-080912	8/9/2012	43.57	NE	0.000089 J	0.000022 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0043	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.00046 U	<0.01			
P-93D	P93D-102610	10/26/2010	125.44 - 127.44	40.59	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	P93D-ROX-050511	5/5/2011		41.96	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0027 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005		
	P93D-ROX-081811	8/18/2011		39.46	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.000015 U	<0.0001	<0.005	<0.01	<0.0018 U		
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005		
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0054	<0.011	<0.0054		
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051		
P93D-ROX-080812	8/8/2012	43.71	NE	0.00017	0.000051 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.0021 U	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052				
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	0.0053	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048		
	P114-ROX-012012	1/20/2012		27.17	NE	<0.0001	<0.0001	<0.0001	<0.000051	0.000055 J	0.00005 J	0.000058 J	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.0013 U	<0.00044 U	<0.0001	0.000053 J	<0.0051	<0.01	<0.0051		
	P114-ROX-050912	5/9/2012		28.09	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0015 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052		
	P114-ROX-080912	8/9/2012		29.13	NE	<0.0001	0.000029 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0039	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005		
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	0.000023 J																			

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
Screening Values (mg/L)						0.42 <sup>2</sup>	0.21 <sup>3</sup>	2.1 <sup>2</sup>	0.00013 <sup>2</sup>	0.0002 <sup>1</sup>	0.00018 <sup>2</sup>	0.21 <sup>3</sup>	0.00017 <sup>2</sup>	28 <sup>4</sup>	0.7 <sup>3</sup>	0.01 <sup>2</sup>	0.006 <sup>2</sup>	1.4 <sup>2</sup>	0.0015 <sup>2</sup>	0.0003 <sup>2</sup>	0.007 <sup>3</sup>	0.021 <sup>2</sup>	5.6 <sup>2</sup>	0.14 <sup>2</sup>
T-12	T12-ROX-102711	10/27/2011	46.72 - 72.72	38.54	NE	0.00079	0.00012	0.00017	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0025	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	0.0109
	T12-ROX-011912	1/19/2012		41.0	NE	0.00047	<0.00011	0.00014	<0.000056	0.000032 J	0.000035 J	0.000069 J	<0.00011		<0.011 UJ	<0.0056	<0.0017 U	<0.00062 U	<0.00011	0.00005 J	0.00029 J	<0.011	<0.0056	0.0095 J
	T12-ROX-050912	5/9/2012	42.62	NE	0.00032	<0.0001	0.000081 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	T12-ROX-080212	8/2/2012	46.72 - 72.72	41.92	NE	0.00044	0.000082 J	0.0001 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	0.0003 J	<0.011	<0.0054	0.0153

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																				
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene		
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>		
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01		
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.0063	<0.0063	<0.0063	<0.0063		<0.0063	<0.0063		<0.0063	<0.013	<0.013	<0.0063	<0.013	<0.0063		<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.00085 U	<0.0063	<0.0063	<0.0063		<0.0063	<0.0063		<0.0063	<0.013	<0.013	<0.005	<0.013	<0.0063	<0.0063 UJ	<0.0063	<0.0063	<0.0063 UJ	<0.0063 UJ	<0.0063 UJ	<0.0063
	MW1-ROX-072711	7/27/2011		35.77	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.005	<0.0001	<0.0001
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.00051	<0.00051	<0.0051	<0.0001	<0.0001
	MW1-ROX-011612	1/16/2012	48.80 - 58.80	37.75	NE	<0.0051	<0.0051	0.00011	0.000059 J		<0.00012 U	<0.0051	<0.0002	0.000098 J	<0.01	<0.01	0.000079 J	<0.01	<0.0051	<0.0051	<0.0051	0.000098	<0.0051	0.000098 J	0.00009 J	
	MW1-ROX-050112	5/1/2012	39.09	NE	<0.00054 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.00051	<0.00051 UJ	<0.0051 UJ	<0.0051 UJ	<0.0001	
MW1-ROX-073012	7/30/2012	48.80 - 58.80	39.39	NE	<0.00043 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	0.0001 J	<0.011	<0.0053	<0.0053	<0.0053	0.000025 J	<0.0053	<0.00011	<0.00011		
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.014	<0.01	0.007 J	0.077	<0.019	<0.01		<0.01	<0.01	0.006 J	<0.01		
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.0048	<0.0048	<0.0048	<0.0048		<0.0048	<0.0048		0.0065	0.0028 J	0.0035 J	0.0312	<0.0095	<0.0048		<0.0048	<0.0048	<0.0048	<0.0048		
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.001 U	<0.0052	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.0052	0.0049 J J	0.0118 J	0.0062 J	0.0119	0.0545 J	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.000052 UJ	0.0057	<0.0001	<0.0001	
	MW2-ROX-072711	7/27/2011		37.04	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0098	0.0167	<0.01	0.0193 J	0.0671	<0.01	<0.005	<0.005	<0.005	<0.0005	0.0086	<0.0001	<0.0001	
	MW2-ROX-072711-DUP	7/27/2011	37.04	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0096	0.0169	<0.01	0.0144 J	0.0659	<0.01	<0.005	<0.005	<0.005	<0.0005	0.0075	<0.0001	<0.0001		
	MW2-ROX-112811	11/28/2011	49.87 - 59.87	38.03	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0141	0.0299	<0.01	<0.01	0.0777	<0.01	<0.005	<0.005 UJ	<0.005	<0.0005	<0.005 UJ	<0.0001	<0.0001	
	MW2-ROX-011612	1/16/2012	38.89	NE	0.00056 J	<0.0053	<0.00011	0.000052 J		<0.000054 U	<0.0053	0.0107	0.0229	<0.011	<0.011	0.0859	<0.011	<0.0053	<0.0053	<0.0053	0.000066	<0.0053	<0.00011	<0.00011		
	MW2-ROX-050112	5/1/2012	40.25	NE	<0.0005 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0105	0.021	<0.01	<0.01	0.0497	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.000052	<0.0052 UJ	<0.0001	<0.0001		
MW2-ROX-073012	7/30/2012	49.87 - 59.87	40.60	NE	<0.00047 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.0097	0.0229	<0.011	<0.011	0.0554	<0.011	<0.0053	<0.0053	<0.0053	0.00004 J	<0.0053	0.000039 J			
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01			
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.0053	<0.011	<0.0053		<0.0053	<0.0053	<0.0053	<0.0053		
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00019 J J	<0.01	<0.01	0.00011 J	<0.01	<0.005 UJ	<0.005	<0.005	<0.00005 UJ	<0.005	<0.0001	<0.0001	
	MW3-ROX-080311	8/3/2011		22.72	NE	<0.00061 U	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	0.00029	0.00017 J	<0.0095	<0.0095	<0.000083 U	<0.0095	<0.0048	<0.0048	<0.0048	<0.000048	<0.0048 UJ	<0.000095	<0.000095	
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.000052	<0.0052 UJ	<0.0001		
	MW3-ROX-112911-DUP	11/29/2011	24.06	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.000051	<0.0051 UJ	<0.0001	<0.0001		
	MW3-ROX-011612	1/16/2012	24.93	NE	<0.0052	<0.0052	0.000098 J	<0.0001		<0.00015 U	<0.0052	<0.00021	0.00015 J	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	0.000095	<0.0052	0.000078 J	<0.0001		
	MW3-ROX-043012	4/30/2012	26.19	NE	<0.00047 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001	<0.0001		
MW3-ROX-072712	7/27/2012	34.67 - 44.67	26.60	NE	<0.00066 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011 UJ	<0.00011	<0.011	<0.0053	<0.0053	<0.0053	0.000025 J J	<0.0053	<0.00011			
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	<0.009			
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.0052	<0.0052	<0.0052	<0.0052		<0.0052	<0.0052		<0.0052	<0.01	<0.01	<0.0052	<0.01	<0.0052		<0.0052	<0.0052	<0.0052	<0.0052		
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.0012 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00033 J	<0.01	<0.01	<0.0001 UJ	<0.01	<0.005 UJ	<0.005	<0.005	<0.00005 UJ	<0.005	<0.0001	<0.0001	
	MW4-ROX-072611	7/26/2011		34.15	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00044	0.00029	<0.01	<0.01	0.00025	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001	<0.0001	
	MW4-ROX-072611-DUP	7/26/2011		34.15	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00031	0.0002	<0.01	<0.01	0.00021	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001	<0.0001	
	MW4-ROX-121511	12/15/2011	33.99	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.00043 U	<0.0052	0.00028	0.00026	<0.01	<0.01	0.00023	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001	<0.0001		
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	0.00077 J	<0.0052	0.000047 J	<0.0001		<0.00018 U	<0.0052	0.0006	0.00059	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	0.000057	<0.0052	0.000065 J		
	MW4-ROX-050312	5/3/2012	37.45	NE	<0.00062 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00032	0.00025	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001	<0.0001		
	MW4-ROX-050312-DUP	5/3/2012	37.45	NE	<0.00061 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.				

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>	
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.0053	<0.011	<0.0053		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.0009 U	<0.0053	<0.00011 UJ	<0.00011 UJ		<0.00011 UJ	<0.0053	<0.0053 UJ	0.00004 J J	<0.011	<0.011	<0.00011 UJ	<0.011	<0.0053 UJ	<0.0053		<0.0053	<0.000053 UJ	<0.0053 UJ	<0.0053 UJ
	MW5-ROX-072611	7/26/2011	33.97 - 43.97	22.00	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00056	<0.0002	<0.01	<0.01	<0.0001 U	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001
	MW5-ROX-072611-DUP	7/26/2011		22.00	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00075	<0.0002	<0.01	<0.01	<0.00015 U	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001
	MW5-ROX-112111	11/21/2011		23.46	NE	0.00052 J	<0.0053	0.00041	<0.00011		<0.00011	<0.0053	0.00051 J	<0.00021	<0.011	<0.011	<0.00014 U	<0.011	<0.0053	<0.0053		<0.0053	<0.000053	<0.0053	<0.00011
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.0016	<0.00021	<0.011	<0.011	<0.00011	<0.011	<0.0053	0.00078 J		<0.0053	<0.000053	<0.0053	<0.00011
MW5-ROX-050312	5/3/2012	25.89	NE	<0.0005 U	<0.0051	<0.0001	<0.0001		<0.0001	0.00072 J	0.0117	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051		<0.0051	<0.000051	<0.0051	<0.0001		
MW5-ROX-072512	7/25/2012	33.97 - 43.97	26.18	NE	0.00057 J	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.003	<0.00021	<0.01	<0.01	0.00032	<0.01	<0.0052	<0.0052		<0.0052	<0.000025 U	0.0015 J	<0.0001	
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW6A-ROX-011911	1/19/2011		26.36	NE	0.00081 J	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.005	<0.01	<0.005		<0.005	<0.005	<0.005	<0.005	
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.0016 U	<0.005	<0.0001 UJ	0.00025 J		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.0001 UJ	<0.01	<0.005 UJ	<0.005		<0.005	<0.00005 UJ	<0.005	<0.0001
	MW6A-ROX-072611	7/26/2011	34.83 - 44.83	23.76	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001
	MW6A-ROX-112111	11/21/2011		25.49	NE	0.00053 J	0.00093 J	<0.0001	<0.0001		0.0015 J	<0.0052	<0.00021 UJ	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052		<0.0052	<0.000052	<0.0052	<0.0001
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	0.00069 J	<0.0051	<0.0001	<0.0001		<0.0001 UJ	<0.0051	<0.0002 UJ	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051		<0.0051	<0.000051	<0.0051	<0.0001
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00015 U	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0054	<0.0054		<0.0054	<0.000054	<0.0054	<0.00011
MW6A-ROX-050212	5/2/2012	27.77	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001		
MW6A-ROX-080112	8/1/2012	34.83 - 44.83	28.36	NE	0.00049 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001	
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.005	<0.01	<0.005		<0.005	<0.005	<0.005	<0.005	
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.0051	<0.01	<0.0051		<0.0051	<0.0051	<0.0051	<0.0051	
	MW6B-ROX-051611	5/16/2011	64.05 - 69.05	25.95	NE	<0.0012 U	<0.0048	<0.000095 UJ	<0.000095 UJ		<0.000095 UJ	<0.0048	<0.0048 UJ	<0.00019 UJ	<0.0095	<0.0095	<0.000095 UJ	<0.0095	<0.0048 UJ	<0.0048		<0.0048	<0.000048 UJ	<0.0048	<0.000095
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	0.000044 J J	<0.01	<0.005 UJ	<0.005		<0.005	<0.00005 UJ	<0.005	<0.0001
	MW6B-ROX-072311	7/23/2011		23.60	NE	<0.00047 U	<0.0053	<0.00021 U	<0.00011		<0.000057 U	<0.0053	<0.00021	<0.000022 U	<0.011	<0.011	0.0012 B	<0.011	<0.0053	<0.0053		<0.0053	<0.000044 U	<0.0053 UJ	<0.00023 U
	MW6B-ROX-110311	11/3/2011		24.67	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001
	MW6B-ROX-011712	1/17/2012	26.77	NE	0.00055 J	<0.0055	<0.00011	<0.00011		<0.00028 U	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0055	<0.0055		<0.0055	<0.000055	<0.0055	<0.00011	
MW6B-ROX-050212	5/2/2012	27.82	NE	0.00039 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001		
MW6B-ROX-080112	8/1/2012	64.05 - 69.05	28.39	NE	0.0007 J	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051		<0.0051	<0.000051	<0.0051	<0.0001	
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.0053	<0.011	<0.0053		<0.0053	<0.0053	<0.0053	<0.0053	
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.0013 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.0001 UJ	<0.01	<0.005 UJ	<0.005		<0.005	<0.00005 UJ	<0.005	<0.0001
	MW6C-ROX-072411	7/24/2011	23.43	NE	<0.0004 U	<0.0053	0.000024 JB	<0.00011		0.000025 J	<0.0053	<0.00021	0.000017 JB	<0.011	<0.011	0.00075 B	<0.011	<0.0053	<0.0053		<0.0053	0.00002 JB	<0.0053 UJ	0.000023 JB	
	MW6C-ROX-110311	11/3/2011	24.47	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00011 U	<0.005	<0.0001	
	MW6C-ROX-011712	1/17/2012	26.50	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0054	<0.0054		<0.0054	<0.000054	<0.0054	<0.00011	
MW6C-ROX-050212	5/2/2012	27.62	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001		
MW6C-ROX-080112	8/1/2012	84.95 - 89.95	28.15	NE	0.001 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001	



**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>	
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW6D-ROX-012111	1/21/2011		25.87	NE	0.00071 J	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.0053	<0.011	<0.0053		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.0015 U	<0.0055	<0.00011 UJ	<0.00011 UJ		<0.00011 UJ	<0.0055	<0.0055 UJ	<0.00022 UJ	<0.011	<0.011	<0.00011 UJ	<0.011	<0.0055 UJ	<0.0055		<0.0055	<0.000055 UJ	<0.0055	<0.00011
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.00046 U	<0.0053	<0.000067 U	<0.00011		<0.000033 U	<0.0053	<0.00021	<0.000018 U	<0.011	<0.011	0.00074 B	<0.011	<0.0053	<0.0053		<0.0053	<0.00004 U	<0.0053 UJ	<0.000063 U
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052		<0.0052	<0.000052	<0.0052	<0.0001
	MW6D-ROX-011712	1/17/2012		26.33	NE	0.00047 J	<0.0055	<0.00011	<0.00011		<0.00011	<0.0055	<0.00022	<0.000085 U	<0.011	<0.011	<0.00016 U	<0.011	<0.0055	<0.0055		<0.0055	<0.000055	<0.0055	<0.00011
	MW6D-ROX-050212	5/2/2012		27.45	NE	0.00047 J	<0.005	<0.0001	<0.0001		<0.0001	<0.0005 U	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.000052	<0.005	<0.0001
MW6D-ROX-080212	8/2/2012	104.72 - 109.72	30.56	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051		<0.0051	<0.000051	<0.0051	<0.0001	
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	0.004 J	<0.019	<0.01		<0.01	<0.01	0.034	<0.01	
	MW-7-111710-Dup	11/17/2010		36.93	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	0.005 J	<0.02	<0.01		<0.01	<0.01	0.032	<0.01	
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		0.0023 J	<0.011	0.00099 J	0.0058	<0.011	<0.0053		<0.0053	<0.0053	0.0737	<0.0053	
	MW07-ROX-051311	5/13/2011		37.50	NE	<0.0017 U	<0.0054	<0.00011 UJ	0.0001 J J		<0.00011 UJ	<0.0054	0.0026 J J	0.0049 J	<0.011	0.00082 J	0.0114 J	<0.011	<0.0054 UJ	<0.0054		<0.0054	0.00017 J	0.0774	0.000044 J
	MW07-ROX-051311D	5/13/2011		37.50	NE	<0.0018 U	<0.0055	<0.00011 UJ	0.000097 J J		<0.00011 UJ	<0.0055	0.0026 J J	0.0047 J	<0.011	0.00078 J	0.011 J	<0.011	<0.0055 UJ	<0.0055		<0.0055	0.00017 J	0.0793	0.000051 J
	MW7-ROX-072411	7/24/2011		35.65	NE	<0.00044 U	<0.0054	0.00003 J	0.000066 J		<0.00011	<0.0054	0.0024	0.003	<0.011	<0.011	0.0081	<0.011	<0.0054	<0.0054		<0.0054	0.000082 B	<0.0513 UJ	0.00003 J
	MW-7-ROX-110211	11/2/2011		35.95	NE	<0.005	<0.005	<0.0001	<0.00028 U		<0.0001	<0.005	<0.0043 U	<0.0059 U	<0.01	<0.01	0.0113	<0.01	<0.005	<0.005		<0.005	<0.00033 U	0.0702	<0.0001
	MW7-ROX-011812	1/18/2012		38.10	NE	0.00045 J	<0.005	<0.0001	0.00018		<0.0001	<0.005	0.0055	0.0069	<0.01	<0.01	0.0134	<0.01 UJ	<0.005	<0.005		<0.005	0.00029	0.15	<0.000042 U
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	<0.0056	<0.0056	<0.00011	0.0002		<0.00011	<0.0056	0.0057	0.0071	<0.011	<0.011	0.0138	<0.011 UJ	<0.0056	<0.0056		<0.0056	0.00028	0.165	<0.000043 U
MW7-ROX-050412	5/4/2012	39.19	NE	<0.00095 U	<0.005	0.000039 J	0.00019		<0.0001	<0.005	0.0075	0.0087	<0.01	<0.01	0.0158	<0.01	<0.005	<0.005		<0.005	0.00028	0.0944	<0.0001		
MW7-ROX-080712	8/7/2012	42.92 - 52.92	39.50	NE	<0.0051	<0.0051	<0.0001	0.00016		<0.0001	<0.0051	0.0055	0.0065	<0.01	<0.01	0.0089	<0.01	<0.0051	<0.0051		<0.0051	0.00019	0.0576	<0.0001	
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.005 J	<0.01	0.023	0.023	<0.019	<0.01		<0.01	<0.01	0.053	<0.01	
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005	0.0004 J	<0.005	<0.005		<0.005	<0.005		0.0069	0.0195	0.0502	0.026	<0.01	<0.005		<0.005	<0.005	0.119 J	<0.005	
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.0057	<0.0057	<0.0057	<0.0057		<0.0057	<0.0057		0.0075	0.0228	0.0587	0.0288	<0.011	<0.0057		<0.0057	<0.0057	0.171 J	<0.0057	
	MW08-ROX-051311	5/13/2011		28.35	NE	<0.0014 U	<0.0055	0.00003 J J	0.00023 J		<0.00011 UJ	<0.0055	0.0053 J J	0.0075 J	0.0108 J	0.0243	0.0241 J	<0.011	0.0041 J J	<0.0055		<0.0055	0.000086 J	0.209	0.000028 J
	MW08-ROX-051311D	5/13/2011		28.35	NE	<0.0021 U	<0.0056	<0.00011 UJ	0.00021 J		<0.00011 UJ	<0.0056	0.0055 J J	0.0089 J	0.0105 J	0.0249	0.0288 J	<0.011	<0.0056 UJ	<0.0056		<0.0056	0.00012 J	0.208	<0.00011
	MW8-ROX-072411	7/24/2011		26.02	NE	<0.0054	0.00077 J	0.000031 JB	0.00034		0.000032 J	<0.0054	0.0055	0.0068	0.0205	0.0486	0.0237	<0.011	<0.0054	<0.0054		<0.0054	0.00014 B	0.0972 J	0.000031 JB
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	<0.00038 U	0.00054 J	0.000022 JB	0.0003		0.000042 J	<0.0055	0.0052	0.0064	0.0177	0.0423	0.023	<0.011	<0.0055	<0.0055		<0.0055	0.00011 B	0.0906 J	0.000023 JB
	MW-8-ROX-110211	11/2/2011		27.02	NE	<0.0048	<0.0048	<0.000095	<0.00032 U		<0.000095	<0.0048	<0.0094 U	<0.0119 U	0.0152	0.0242	0.0282	<0.0095	<0.0048	<0.0048		<0.0048	<0.000048	0.134	<0.000095
	MW8-ROX-011812	1/18/2012		29.15	NE	<0.0053	<0.0053	<0.00053	0.00074		<0.00053	<0.0053	0.0165	0.0204	0.0044 J	0.0121	0.0239	<0.011 UJ	<0.0053	<0.0053		<0.0053	0.00041	0.375	<0.00053
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.00063 U	<0.0053	<0.00011	0.00024		<0.00011	<0.0053	0.0085	0.0099	0.0302	0.0657	0.0186	<0.011	<0.0053	<0.0053		<0.0053	0.00014	0.258 J	<0.00011
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.005	<0.005	<0.0001	0.00031		<0.0001	<0.005	0.0086	0.0102	0.0275	0.0569	0.0188	<0.01	<0.005	<0.005		<0.005	0.00014	0.12 J	<0.0001
	MW8-ROX-080712	8/7/2012		33.60 - 43.60	30.97	NE	<0.0054	<0.0054	<0.00011	0.00027		<0.00011	<0.0054	0.0091	0.0109	0.0075 J	0.0231	0.0164	<0.011	<0.0054	<0.0054		<0.0054	0.00015	0.136
MW8-ROX-080712-DUP	8/7/2012	30.97	NE	<0.0056	<0.0056	<0.00011	0.00026		<0.00011	<0.0056	0.0092	0.0111	0.0081 J	0.024	0.0164	<0.011	<0.0056	<0.0056		<0.0056	0.00014	0.134	<0.00011		
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01		
	MW9-ROX-012111	1/21/2011		39.62	NE	0.00064 J	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.0053	<0.011	<0.0053		<0.0053	<0.0053	<0.0053	<0.0053	
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.00046 U	<0.0049	0.00002 J J	<0.000097 UJ		<0.000097 UJ	<0.0049	<0.0049 UJ	<0.00019 UJ	<0.0097	<0.0097	<0.000097 UJ	<0.0097	<0.0049 UJ	<0.0049		<0.0049	<0.000049 UJ	<0.0049	<0.000097
	MW9-ROX-072311	7/23/2011		38.06	NE	<0.0054	<0.0054	<0.000044 U	<0.00011		<0.000031 U	<0.0054	<0.00022	<0.00022	<0.01 UJ	<0.01 UJ	0.001 B	<0.011	<0.0054	<0.0054		<0.0054	<0.00003 U	<0.005 UJ	<0.000046 U
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005		<0.005	<0.00005	<0.005	<0.0001
	MW9-ROX-011612																								

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>	
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.0051	<0.01	<0.0051		<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.005	<0.01	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.00061 U	<0.0048	<0.0048	<0.0048		<0.0048	<0.0048		<0.0048	<0.0095	<0.0095	<0.0048	<0.0095	<0.0048	<0.0048 UJ	<0.0048	<0.0048	<0.0048 UJ	<0.0048 UJ	<0.0048
	MW10-ROX-072311	7/23/2011		38.01	NE	<0.005	<0.005	<0.000047 U	<0.0001		<0.000031 U	<0.005	<0.0002	<0.00002 U	<0.01	<0.01	0.00062 B	<0.01	<0.005	<0.005	<0.005	<0.000027 U	<0.005 UJ	<0.005 UJ	<0.000044 U
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.005	<0.0001
	MW10-ROX-011612	1/16/2012		39.28	NE	0.00081 J	<0.0053	0.000052 J	<0.00011		<0.00011	<0.0053	<0.00021	0.000055 J	<0.011	<0.011	0.000047 J	<0.011	<0.0053	<0.0053	<0.0053	0.000072	<0.0053	0.00005 J	0.00005 J
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.00041 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	0.000052 J	<0.01	<0.0052	<0.0052 UJ	<0.0052	0.000033 J	<0.0052 UJ	<0.0052 UJ	<0.0001
MW10-ROX-072712	7/27/2012	41.21	NE	<0.00043 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01 UJ	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.005	<0.0001		
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01		
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.0052	<0.0052	<0.0052	<0.0052		<0.0052	<0.0052		<0.0052	<0.01	<0.01	<0.0052	<0.01	<0.0052		<0.0052	<0.0052	<0.0052	<0.0052	
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.001 U	<0.0048	0.000026 J J	<0.000095 UJ		0.000015 J J	<0.0048	<0.0048 UJ	<0.00019 UJ	<0.0095	<0.0095	<0.000095 UJ	<0.0095	<0.0048 UJ	<0.0048	<0.0048	0.000025 J J	<0.0048	0.000026 J	
	MW11-ROX-072411	7/24/2011		34.3	NE	<0.0056	<0.0056	0.000025 JB	<0.00011		0.000026 J	<0.0056	<0.00022	0.000023 JB	<0.011	<0.011	0.00027 B	<0.011	<0.0056	<0.0056	<0.0056	0.000021 JB	<0.0056 UJ	0.000024 JB	
	MW11-ROX-110211	11/2/2011		35.44	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0054	<0.0054	<0.0054	<0.000054	<0.0054	<0.00011	
	MW11-ROX-011712	1/17/2012		37.44	NE																				
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001	
MW11-ROX-072712	7/27/2012	41.66 - 51.66	38.90	NE	<0.00057 U	<0.0058	<0.00012	<0.00012		<0.00012	<0.0058	<0.00023	<0.00023	<0.012	<0.012 UJ	<0.00012	<0.012	<0.0058	<0.0058	<0.0058	<0.000058	<0.0058	<0.00012		
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01		
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.005	<0.01	<0.005		<0.005	<0.005	<0.005		
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.0001 UJ	<0.01	<0.005 UJ	<0.005	<0.005	<0.00005 UJ	<0.005 UJ	<0.0001	
	MW12-ROX-072411	7/24/2011		35.55	NE	<0.00039 U	<0.005	0.000035 JB	<0.0001		0.000047 J	<0.005	<0.0002	<0.0002	<0.01 UJ	<0.01 UJ	0.00098 B	<0.01	<0.005	<0.005	<0.005	0.000024 JB	<0.005 UJ	0.00004 JB	
	MW12-ROX-110211	11/2/2011		35.70	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.000095	<0.0095	<0.0048	<0.0048	<0.0048	<0.000048	<0.0048	<0.000095	
	MW12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.000095	<0.0095	<0.0048	<0.0048	<0.0048	<0.000048	<0.0048	<0.000095	
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00023 U	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0054	<0.0054	<0.0054	<0.000054	<0.0054	<0.00011	
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.0056	<0.0056	<0.00011	<0.00011		<0.00007 U	<0.0056	<0.00022	<0.00022	<0.011	<0.011	<0.00011	<0.011	<0.0056	<0.0056	<0.0056	<0.000056	<0.0056	<0.00011	
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001	
MW12-ROX-072712	7/27/2012	41.92 - 51.92	39.22	NE	<0.00063 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011 UJ	<0.00011	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	<0.0053	<0.00011		
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.0052	<0.0052	<0.0052	0.00044 J		<0.0052	<0.0052		0.0021 J	<0.01	<0.01	<0.0052	<0.01	<0.0052		<0.0052	0.0012 J	<0.0052	0.00032 J	
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.0013 U	<0.005	0.000032 J J	0.00023 J		<0.000099 UJ	<0.005	<0.005 UJ	0.00015 J J	<0.0099	<0.0099	<0.000095 U	<0.0099	<0.005 UJ	<0.005	<0.005	0.000095 J	<0.005 UJ	0.000089 J	
	MW13-ROX-080311	8/3/2011		21.67	NE	<0.00074 U	<0.005	<0.0001	<0.0001		0.00004 J	<0.005	<0.0002	0.00011 J	<0.01	<0.01	<0.000045 U	<0.01	<0.005	<0.005	<0.005	<0.000054 U	<0.005 UJ	0.000041 J	
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.0056	<0.0056	<0.00011	<0.00033 U		<0.00011	<0.0056	<0.00081 U	<0.0003 U	<0.011	<0.011	0.00017	<0.011	<0.0056	<0.0056	<0.0056	<0.000056	<0.0056	<0.00018 U	
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.00058 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.00022	<0.00027 U	<0.011	<0.011	0.00021	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	0.0015 J	0.000065 J	
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001	
MW13-ROX-080812	8/8/2012	25.57 - 35.57	26.67	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.00021	<0.00014 UJ	<0.011	<0.011	<0.00013 U	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	<0.0053	<0.00011		
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42	NM	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.00011	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	<0.0053	<0.00011	
	MW14-ROX-051012	5/10/2012		NM	NE	0.00043 J	<0.0052	<0.0001	0.00022		<0.0001	<0.0052	0.0101	0.0015	<0.01	<0.01	0.00099	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001	
	MW14-ROX-080312	8/3/2012		33.42 - 43.42	NM	NE	<0.0053	<0.0053	<0.00011	0.00071		<0.00011	<0.0053	0.019	0.0038	<0.011	<0.011	0.0013	<0.011						

TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																			
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>	
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.005	<0.01	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
	P54-ROX-051111	5/11/2011		37.37	NE	<0.0011 U	<0.005	0.000031 J J	<0.00011 UJ		<0.00011 UJ	<0.005	<0.005 UJ	<0.00022 UJ	<0.01	<0.01	0.00013 J	<0.01	<0.005 UJ	<0.005	<0.005	<0.005	<0.000054 UJ	<0.005	0.000028 J
	P54-ROX-072411	7/24/2011		35.38	NE	<0.00049 U	<0.005	0.000035 JB	<0.0001		0.00004 J	<0.005	<0.0002	0.000026 JB	<0.01	<0.01	0.000066 JB	<0.01	<0.005	<0.005	<0.005	<0.005	0.000025 JB	<0.005 UJ	0.000031 JB
	P54-ROX-110311	11/3/2011		35.49	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001
	P54-ROX-011712	1/17/2012		37.17	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.000081 U	<0.01	<0.01	<0.000089 U	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0052	<0.0001
	P54-ROX-050412	5/4/2012		38.77	NE	<0.00085 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	0.0026 J	<0.0001	<0.0001
P54-ROX-080212	8/2/2012	38.95	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.00011	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	<0.0053	<0.0053	<0.00011	<0.00011	
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00065	0.00096	<0.01	<0.01	0.0015	<0.01	<0.005	<0.005	<0.005	0.00016	<0.005	<0.0001	
	P55-ROX-011912	1/19/2012		41.09	NE	<0.0052	<0.0052	<0.0001	0.00038		<0.0001	<0.0052	0.0048	0.0076	<0.01	<0.01	0.0197	<0.01 UJ	<0.0052	<0.0052	<0.0052	0.00039	<0.0052	<0.0001	
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.0054	<0.0054	<0.00011	0.00032		0.00011	<0.0054	0.0046	0.0076	<0.011	<0.011	0.0169	<0.011 UJ	<0.0054	<0.0054	<0.0054	0.00036	0.0029 J	<0.00011	
	P55-ROX-050912	5/9/2012		42.44	NE	<0.0051	<0.0051	<0.0001	0.00069		<0.0001	<0.0051	0.0118	0.0179	<0.01	<0.01	0.0271	<0.01	<0.0051	<0.0051	<0.0051	0.00066	<0.0051	<0.0001	
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	<0.0052	<0.0052	<0.0001	0.00039		<0.0001	<0.0052	0.016	0.0224	<0.01	<0.01	0.067	<0.01	<0.0052	<0.0052	<0.0052	0.0011	<0.0052	<0.0001	
	P56-ROX-011912	1/19/2012		41.81	NE	<0.00044 U	<0.0051	<0.0001	0.00046		<0.0001	<0.0051	0.0186	0.024	<0.01	<0.01	0.0596	<0.01 UJ	<0.0051	<0.0051	<0.0051	0.0012	<0.0051	0.000036 J	
	P56-ROX-050812	5/8/2012		43.09	NE	<0.0052	<0.0052	<0.0001	0.00033		<0.0001	<0.0052	0.0186	0.0236	<0.01	<0.01	0.0667	<0.01	<0.0052	<0.0052	<0.0052	0.0011	<0.0052	<0.0001	
	P56-ROX-080612	8/6/2012		43.60	NE	<0.00075 U	<0.0051	<0.0001	0.0003		<0.0001	<0.0051	0.0143	0.0178	<0.01	<0.01	0.0197	<0.01	<0.0051	<0.0051	<0.0051	0.0013	<0.0051	<0.0001	
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	<0.0054	<0.0054	<0.00054	0.00076		<0.00054	<0.0054	0.0288	0.0388	<0.011	<0.011	0.152	<0.011	<0.0054	<0.0054	<0.0054	0.0006	0.286	<0.00054	
	P57-ROX-021312	2/13/2012		42.13	NE	<0.00046 U	<0.0051	<0.0001	0.00087		<0.0001	<0.0051		0.0403	<0.01	<0.01	0.271 J	<0.01	<0.0051	<0.0051	<0.0051	0.00051	0.297	<0.0001	
	P57-ROX-050712	5/7/2012		42.92	NE	<0.0052	<0.0052	<0.0001	0.00045		<0.0001	<0.0052	0.0169	0.0212	<0.01	0.0023 J	0.0894	<0.01	<0.0052	<0.0052	<0.0052	0.00035	0.141	<0.0001	
	P57-ROX-080612	8/6/2012	43.53	NE	<0.00087 U	<0.005	<0.0001	0.0006		<0.0001	<0.005	0.0244	0.0326	<0.01	0.0013 J	0.119	<0.01	<0.005	<0.005	<0.005	0.00053	0.0697 J	<0.0001		
	P57-ROX-080612-DUP	8/6/2012	43.53	NE	<0.00089 U	<0.005	<0.0001	0.00063		<0.0001	<0.005	0.0242	0.0321	<0.01	0.0013 J	0.115	<0.01	<0.005	<0.005	<0.005	0.00054	0.0921 J	<0.0001		
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	<0.0049	<0.0049	<0.000097	0.0016		<0.000097	<0.0049	0.049	0.0717	<0.0097	0.0347	0.204	<0.0097	<0.0049	<0.0049	<0.0049	0.00085	0.137	0.00012	
	P58-ROX-011912	1/19/2012		39.73	NE	<0.00057 U	<0.0053	0.000047 J	0.0017		<0.00011	<0.0053	0.0639	0.0904	<0.011	0.0171	0.212	<0.011 UJ	<0.0053	<0.0053	<0.0053	0.00084	0.259	0.00012	
	P58-ROX-011912-D	1/19/2012		39.73	NE	<0.00059 U	<0.0053	0.000052 J	0.0018		<0.00011	<0.0053	0.0588	0.0821	<0.011	0.0156	0.191 J	<0.011 UJ	<0.0053	<0.0053	<0.0053	0.0008	0.225	0.00012	
	P58-ROX-050712	5/7/2012		40.90	NE	<0.0051	<0.0051	<0.0001	0.0009 J		<0.0001	<0.0051	0.0351 J	0.0435 J	<0.01	0.0181	0.112 J	<0.01	<0.0051	<0.0051	<0.0051	0.00056 J	0.161	0.0001	
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	<0.0052	<0.0052	<0.0001	0.00067 J		<0.0001	<0.0052	0.0267 J	0.0338 J	<0.01	0.0122	0.0697 J	<0.01	<0.0052	<0.0052	<0.0052	0.00041 J	0.147	0.000076 J	
	P58-ROX-080612	8/6/2012		41.63	NE	<0.00053 U	<0.005	0.000068 J	0.0014		<0.0001	<0.005	0.0524	0.0691	<0.01	0.0146	0.142	<0.01	<0.005	<0.005	<0.005	0.001	0.15	<0.0001 UJ	
P58-ROX-080612-DUP	8/6/2012	41.63	NE	<0.00063 U	<0.005	0.000066 J	0.0015		<0.0001	<0.005	0.0596	0.079	<0.01	0.0195	0.15	<0.01	<0.005	<0.005	<0.005	0.0011	0.19	0.00021 J			
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	<0.0053	<0.0053	0.00035	0.0012		<0.00011	<0.0053	0.0121	0.0184	<0.011	<0.011	0.0793	<0.011	<0.0053	<0.0053	<0.0053	0.002	0.0383	0.00057	
	P59-ROX-011912	1/19/2012		42.88	NE	<0.0005 U	<0.0057	0.000073 J	0.0008		<0.00011	<0.0057	0.0175	0.0279	0.0045 J	0.0092 J	0.18	<0.011 UJ	<0.0057	<0.0057	0.00079 J	0.00081	0.0906 J	0.00013	
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	<0.00041 U	<0.0051	0.000073 J	0.00063		<0.0001	<0.0051	0.0178	0.029	<0.01	0.0076 J	0.183	<0.01 UJ	<0.0051	<0.0051	0.00087 J	0.00081	0.0646 J	0.00013	
	P59-ROX-050912	5/9/2012		44.11	NE	<0.005	<0.005	0.000062 J	0.00034	0.0056 JN	<0.0001	<0.005	0.0117	0.018	<0.01	0.0062 J	0.0925	<0.01	<0.005	<0.005	<0.005	0.00053	0.0241	0.000092 J	
	P59-ROX-080212	8/2/2012		44.07	NE	<0.0053	<0.0053	0.00015	0.00048		<0.00011	<0.0053	0.0136	0.0207	0.0018 J	0.0032 J	0.0886	<0.011	<0.0053	<0.0053	<0.0053	0.001	0.0419	0.00021	
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	<0.005	<0.005	0.00017	0.003		<0.0001	<0.005	0.093	0.0295	<0.01	<0.01	0.0091	<0.01	<0.005	<0.005	<0.005	0.0013	<0.005	0.00029	
	P66-ROX-051012	5/10/2012		32.48	NE	0.00054 J	<0.005	0.000056 J	0.0015		<0.0001	<0.005	0.0647	0.025	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	0.00057	<0.005	0.000082 J	
	P66-ROX-080312	8/3/2012		30.51	NE	<0.0053	<0.0053	0.000082 J	0.0011		<0.00011	<0.0053	0.0541	0.028	<0.011	<0.011	0.0013	<0.011	<0.0053	<0.0053	<0.0053	0.00057	<0.0053	0.00013	
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	<0.005	<0.005	<0.0001	0.00044		<0.0001	<0.005	0.0177	0.0265	<0.01	<0.01	0.0673	<0.01	<0.005	<0.005	<0.005	0.00025	0.0127	<0.0001	
	P74-ROX-011912	1/19/2012		38.77	NE	<0.00																			

TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																		
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		0.023	<0.009	<0.009	0.095 D	<0.019	<0.009		<0.009	<0.009	0.31 D J	<0.009
	P93A-ROX_012611	1/26/2011		40.97	NE	<0.0049	<0.0049	<0.0049	0.00032 J		<0.0049	<0.0049		0.0254	<0.0098	0.064	0.0803	<0.0098 UJ	<0.0049		<0.0049	0.0004 J	0.172	<0.0049
	P93A-ROX-050511	5/5/2011		41.88	NE	<0.001 U	<0.005	0.000019 J J	0.00044 J		<0.0001 UJ	<0.005	0.0172 J	0.0309 J	<0.01	0.0075 J	0.0795 J	<0.01	<0.005 UJ	<0.005	<0.005	0.0004 J	0.21	0.000026 J
	P93A-ROX-081811	8/18/2011		39.40	NE	<0.001 U	<0.005	<0.000033 U	0.00047		<0.0001	<0.005	0.0224	0.0302	<0.01	0.0093 J	0.0868	<0.01	<0.005	<0.005	<0.005	0.00043	0.183	0.000037 J
	P93A-ROX-102611	10/26/2011		39.43	NE	<0.005	<0.005	<0.0001	0.00033		<0.0001	<0.005	0.0162	0.0258	<0.01	<0.01	0.108	<0.01	<0.005	<0.005	<0.005	0.00032	0.193	<0.0001
	P93A-ROX-012012	1/20/2012		41.66	NE	<0.00038 U	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	0.0133	0.0188	<0.0095	0.0029 J	0.059 J	<0.0095	<0.0048	<0.0048	<0.0048	<0.00022 U	0.234	<0.000095
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.0051	<0.0051	<0.0001	0.00021		<0.0001	<0.0051	0.0121	0.0151	<0.01	0.0014 J	0.0472	<0.01	<0.0051	<0.0051	<0.0051	0.00021	<0.0051	<0.0001
P93A-ROX-080912	8/9/2012	43.66	NE	<0.0054	<0.0054	<0.00011	0.00021		<0.00011	<0.0054	0.0097	0.013	<0.011	0.00096 J	0.0496	<0.011	<0.0054	<0.0054	<0.0054	0.00025	0.208	<0.00011		
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	0.094	<0.009	
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	0.0011 J	0.00069 J J	<0.0053		<0.0053	<0.0053	0.106	<0.0053
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.001 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	0.0013 J	<0.01	<0.005 UJ	<0.005	<0.005	0.000017 J J	0.0933	<0.0001
	P93B-ROX-081811	8/18/2011		39.44	NE	<0.00077 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	0.0037	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	0.116	<0.0001
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	0.012	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	0.122	<0.0001
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	0.0041 J J	<0.0095	<0.0048	<0.0048	<0.0048	<0.000048	0.107	<0.000095
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	0.002	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001
P93B-ROX-080912	8/9/2012	43.69	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	0.0049	<0.011	<0.0054	<0.0054	<0.0054	<0.000054	0.178	<0.00011		
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	<0.009	
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.0051	<0.01 UJ	<0.0051		<0.0051	<0.0051	0.0166	<0.0051
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00009 J J	<0.01	<0.01	0.00003 J J	<0.01	<0.005 UJ	<0.005	<0.005	<0.00005 UJ	0.0144	<0.0001
	P93C-ROX-081811	8/18/2011		39.32	NE	<0.00064 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.000033 U	<0.01	<0.01	<0.000054 U	<0.01	<0.005	<0.005	<0.005	<0.00005	0.0046 J	<0.0001
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.00011	<0.011	<0.0053	<0.0053	<0.0053	<0.000053	<0.0053	<0.00011
P93C-ROX-080912	8/9/2012	43.57	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	0.000065 J	<0.01	<0.0052	<0.0052	<0.0052	<0.000052	<0.0052	<0.0001		
P-93D	P93D-102610	10/26/2010	125.44 - 127.44	40.59	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	
	P93D-ROX-050511	5/5/2011		41.96	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.000045 J J	<0.01	<0.01	0.000036 J J	<0.01	<0.005 UJ	<0.005	<0.005	<0.00005 UJ	<0.005	<0.0001
	P93D-ROX-081811	8/18/2011		39.46	NE	<0.0011 U	<0.005	<0.000023 U	<0.0001		<0.0001	<0.005	<0.0002	<0.000042 U	<0.01	<0.01	<0.000087 U	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	0.000021 J
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00006 U	<0.011	<0.011	0.00016	<0.011	<0.0054	<0.0054	<0.0054	<0.000054	<0.0054	<0.00011
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001
P93D-ROX-080812	8/8/2012	43.71	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0004	<0.00042 U	0.00076 J	0.0011 J	<0.0092 U	<0.01	<0.0052	<0.0052	<0.0052	0.000054	<0.0052	<0.0001		
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.00019	<0.00019	<0.0095	<0.0095	<0.000095	<0.0095	<0.0048	<0.0048	<0.0048	<0.000048	<0.0048	<0.000095	
	P114-ROX-012012	1/20/2012		27.17	NE	<0.0051	<0.0051	<0.0001	<0.0001		0.000066 J	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0051	<0.0051	<0.0051	<0.000051	<0.0051	<0.0001
	P114-ROX-050912	5/9/2012		28.09	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.0052	<0.0052	<0.0052	<0.00005	<0.0052	<0.0001
	P114-ROX-080912	8/9/2012		29.13	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.0001	<0.01	<0.005	<0.005	<0.005	<0.00005	<0.005	<0.0001
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.00043 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0002 J	0.00017 J	<0.01	0.0087 J	0.00048	<0.01	<0.0052	<0.0052	<0.0052	0.000043 J	<0.0052	<0.0001
	ROST3PZ-ROX-080712	8/7/2012	40.00 - 50.00	39.00	NE	0.0049 J	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	0.00031	0.00038 J	<0.011	0.0056 J	0.00038	<0.011	<0.0054	<0.0054	<0.0054	<0.000054	<0.0054	<0.00011
ROST-4-PZ(C)	ROST4PZ-C-051412																							

**TABLE 3  
CUMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL RESULTS AND EXCEEDANCES**

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs																		
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Naphthalene <sup>5</sup>	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Phenol	Pyrene
Screening Values (mg/L)						0.7 <sup>2</sup>	0.14 <sup>2</sup>	0.28 <sup>2</sup>	0.28 <sup>2</sup>		0.00043 <sup>2</sup>	1.4 <sup>2</sup>	0.49 <sup>3</sup>	0.028 <sup>4</sup>	0.35 <sup>2</sup>	0.35 <sup>3</sup>	0.14 <sup>2</sup>		0.0035 <sup>2</sup>	0.0006 <sup>3</sup>	0.0032 <sup>2</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>2</sup>
T-12	T12-ROX-102711	10/27/2011	46.72 - 72.72	38.54	NE	<0.0051	<0.0051	<0.0001	0.0006		<0.0001	<0.0051	0.0264	0.0415	<0.01	<0.01	0.105	<0.01	<0.0051	<0.0051	<0.0051	0.0015	0.0167	0.0001
	T12-ROX-011912	1/19/2012		41.0	NE	<0.00048 U	<0.0056	0.000044 J	0.00043		0.000061 J	<0.0056	0.0158	0.0186	0.00091 J	<0.011	0.132	<0.011 UJ	<0.0056	<0.0056	<0.0056	0.00054	0.0188	0.000067 J
	T12-ROX-050912	5/9/2012	42.62	NE	<0.005	<0.005	<0.0001	0.00024		<0.0001	<0.005	0.0164	0.0254	<0.01	0.0026 J	0.0924	<0.01	<0.005	<0.005	<0.005	0.00062	0.0094	0.000039 J	
	T12-ROX-080212	8/2/2012	46.72 - 72.72	41.92	NE	<0.0054	<0.0054	0.000046 J	0.00029		<0.00011	<0.0054	0.0199	0.0294	0.0021 J	0.0027 J	0.0625	<0.011	<0.0054	<0.0054	<0.0054	0.00089	0.042	0.000062 J

**Notes:**

- <sup>1</sup> Denotes screening criteria source from 35 I.A.C. 620, Subpart D.
- <sup>2</sup> Denotes screening criteria source from 35 I.A.C. 742 (TACO), Appendix B, Table E.
- <sup>3</sup> Denotes screening criteria source from IL EPA Toxicity Assessment Unit (Chemicals not in TACO, Tier I Tables).
- <sup>4</sup> Denotes screening criteria source R2008-018, Proposed Revisions to Groundwater Quality Standards, 35 I.A.C. 620.
- <sup>5</sup> Prior to January 2011 naphthalene was reported as a VOC.
- <sup>6</sup> 1 inch piezometer replaced with a 2 inch groundwater monitoring well

	Indicates a historical exceedance or screening criteria.
	Indicates a current exceedance or screening criteria.
	Empty cell without a value indicates current quarter analyte result was rejected.
	Empty cell without a value indicates previous quarter analyte result was rejected or the analyte was not part of method list when sampled.

**LABORATORY QUALIFIERS:**

- B = Target analyte or common lab contaminant was identified in the method blank indicating possible field or lab contamination.
- D = The result is from a diluted sample.
- J = The analyte was detected below the reporting limit. Result is estimated.
- E = The value exceeds calibration range.
- JN = Estimated value for tentatively identified compound (library search).

**URS QUALIFIERS:**

- J = The result is estimated.
- UJ = Estimated nondetect.
- U = Result is non-detect.

- LEGEND**
- GROUNDWATER MONITORING WELL SAMPLING LOCATION
  - GROUNDWATER MONITORING WELL LOCATION (NOT SAMPLED)
  - GROUNDWATER PIEZOMETER SAMPLING LOCATION
  - GROUNDWATER PIEZOMETER LOCATION (NOT SAMPLED)

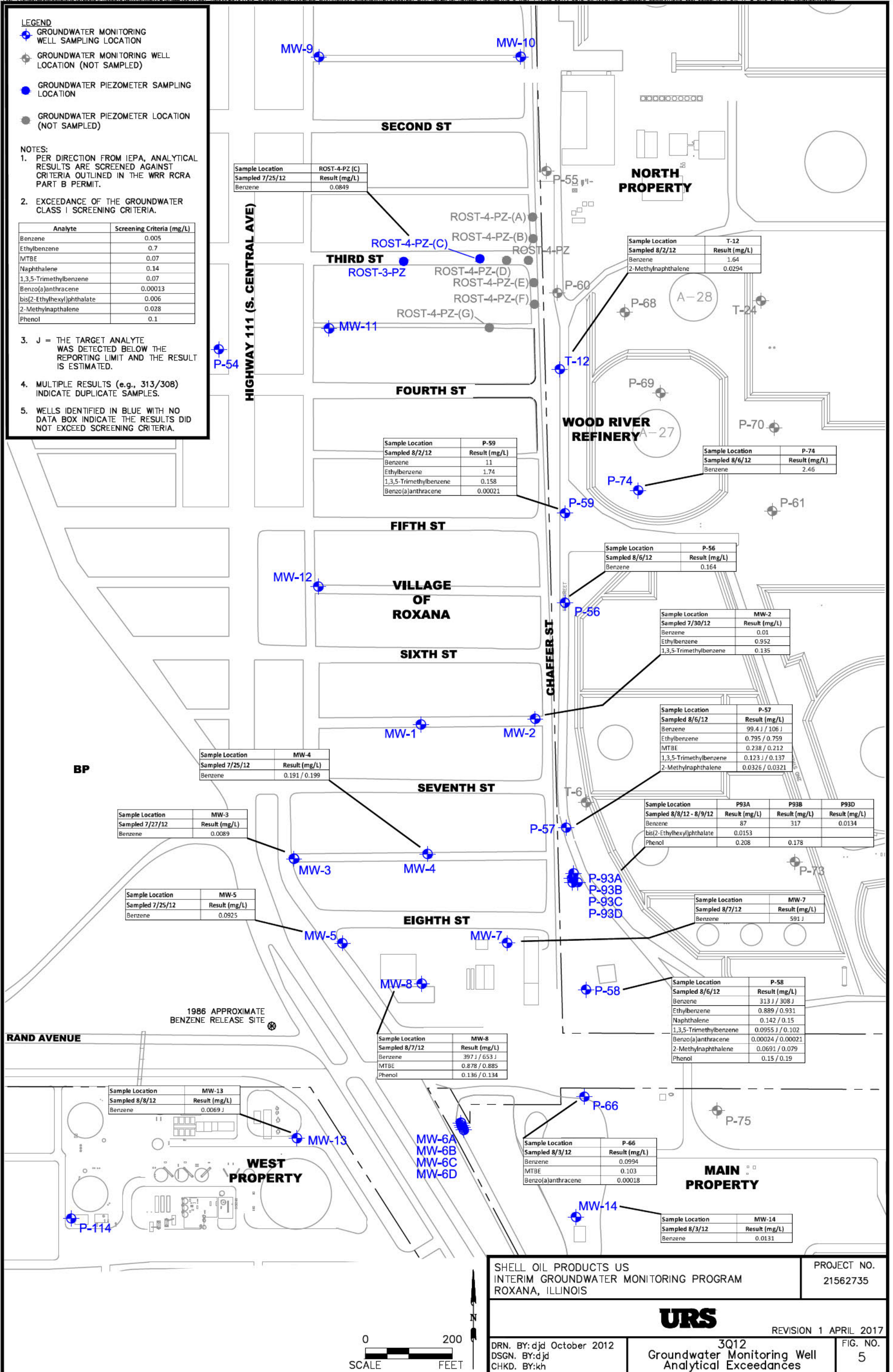
**NOTES:**

1. PER DIRECTION FROM IEPA, ANALYTICAL RESULTS ARE SCREENED AGAINST CRITERIA OUTLINED IN THE WRR RCRA PART B PERMIT.

2. EXCEEDANCE OF THE GROUNDWATER CLASS I SCREENING CRITERIA.

Analyte	Screening Criteria (mg/L)
Benzene	0.005
Ethylbenzene	0.7
MTBE	0.07
Naphthalene	0.14
1,3,5-Trimethylbenzene	0.07
Benzo(a)anthracene	0.00013
bis(2-Ethylhexyl)phthalate	0.006
2-Methylnaphthalene	0.028
Phenol	0.1

3. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
4. MULTIPLE RESULTS (e.g., 313/308) INDICATE DUPLICATE SAMPLES.
5. WELLS IDENTIFIED IN BLUE WITH NO DATA BOX INDICATE THE RESULTS DID NOT EXCEED SCREENING CRITERIA.

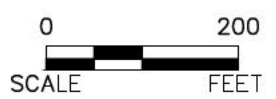


SHELL OIL PRODUCTS US  
 INTERIM GROUNDWATER MONITORING PROGRAM  
 ROXANA, ILLINOIS

PROJECT NO.  
 21562735



REVISION 1 APRIL 2017








DRN. BY:djd October 2012  
 DSGN. BY:djd  
 CHKD. BY:kh


3Q12  
 Groundwater Monitoring Well  
 Analytical Exceedances

FIG. NO.  
 5

**LEGEND**

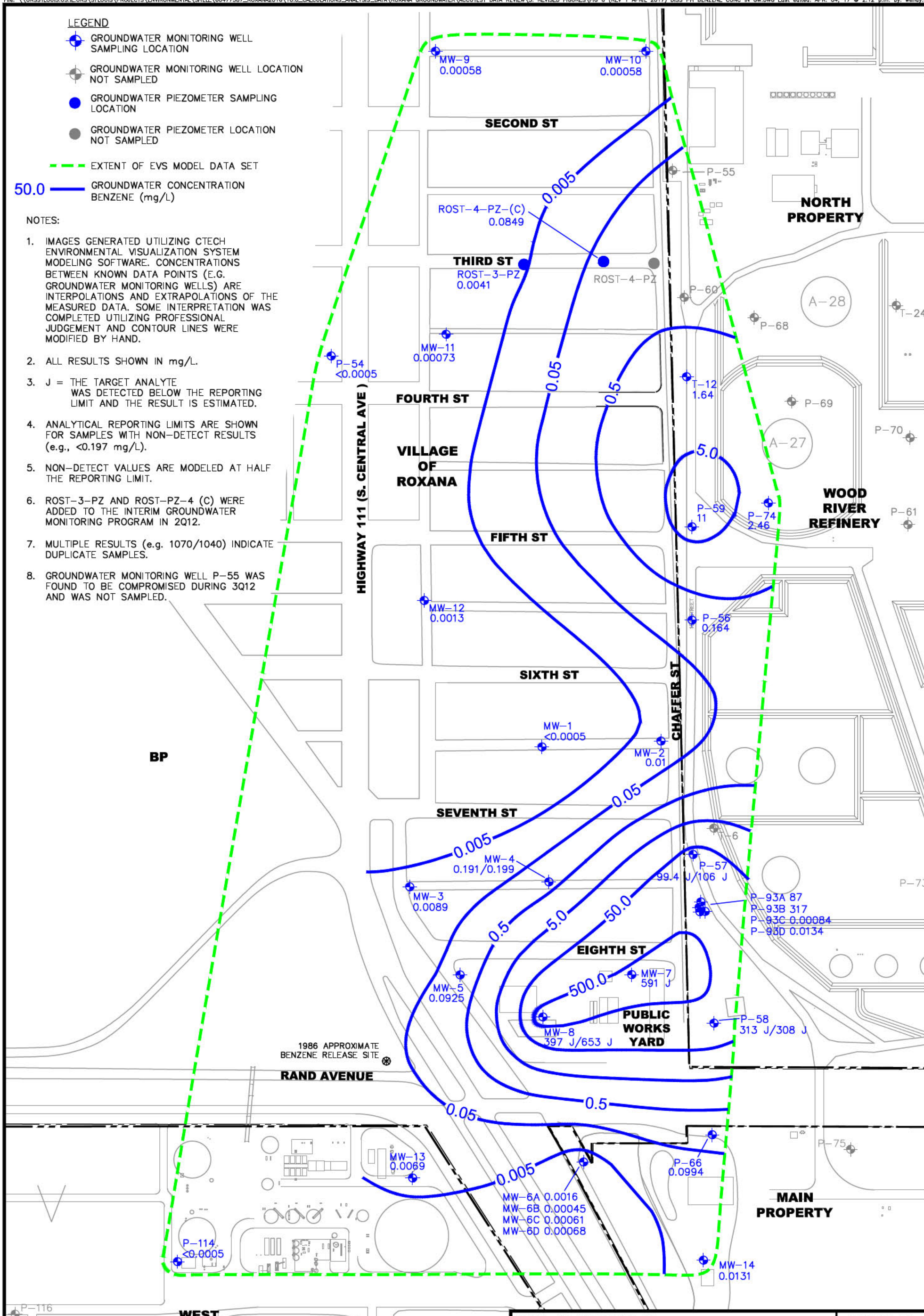
-  GROUNDWATER MONITORING WELL SAMPLING LOCATION
-  GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED
-  GROUNDWATER PIEZOMETER SAMPLING LOCATION
-  GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED

 EXTENT OF EVS MODEL DATA SET

 50.0 GROUNDWATER CONCENTRATION BENZENE (mg/L)

**NOTES:**

1. IMAGES GENERATED UTILIZING CTECH ENVIRONMENTAL VISUALIZATION SYSTEM MODELING SOFTWARE. CONCENTRATIONS BETWEEN KNOWN DATA POINTS (E.G. GROUNDWATER MONITORING WELLS) ARE INTERPOLATIONS AND EXTRAPOLATIONS OF THE MEASURED DATA. SOME INTERPRETATION WAS COMPLETED UTILIZING PROFESSIONAL JUDGEMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
2. ALL RESULTS SHOWN IN mg/L.
3. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
4. ANALYTICAL REPORTING LIMITS ARE SHOWN FOR SAMPLES WITH NON-DETECT RESULTS (e.g., <0.197 mg/L).
5. NON-DETECT VALUES ARE MODELED AT HALF THE REPORTING LIMIT.
6. ROST-3-PZ AND ROST-PZ-4 (C) WERE ADDED TO THE INTERIM GROUNDWATER MONITORING PROGRAM IN 2Q12.
7. MULTIPLE RESULTS (e.g. 1070/1040) INDICATE DUPLICATE SAMPLES.
8. GROUNDWATER MONITORING WELL P-55 WAS FOUND TO BE COMPROMISED DURING 3Q12 AND WAS NOT SAMPLED.



SHELL OIL PRODUCTS US  
INTERIM GROUNDWATER MONITORING PROGRAM  
ROXANA, ILLINOIS

PROJECT NO.  
21562735

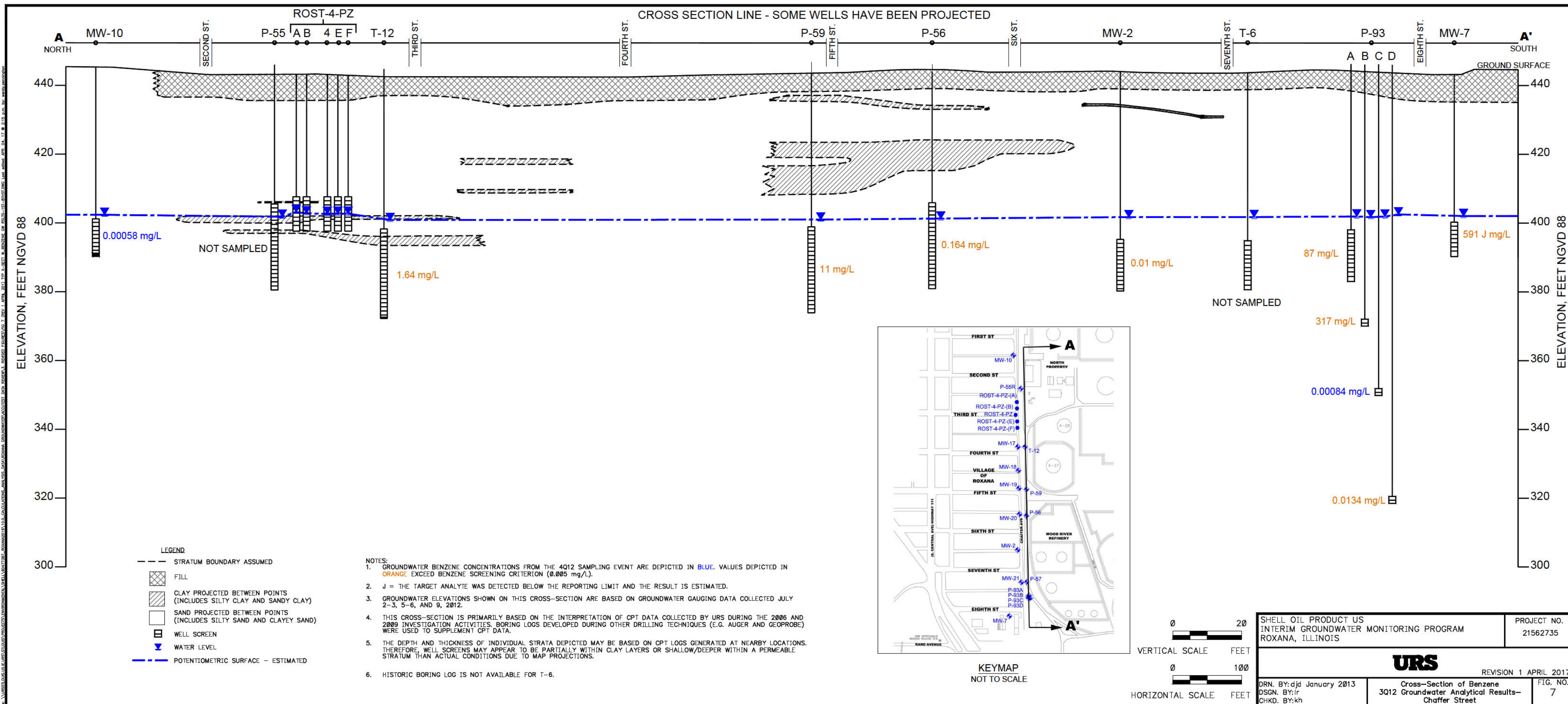


REVISION 1 APRIL 2017

DRN. BY:djd October 2012  
DSGN. BY:nm  
CHKD. BY:kh

3Q12 Dissolved Phase Benzene  
Concentrations in Groundwater

FIG. NO.  
6







SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION,  
VERIFICATION, TESTING AND CERTIFICATION COMPANY.



*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

### Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12669

Sampling Date: 07/27/12

### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 116



Test results contained within this data package meet the requirements  
of the National Environmental Laboratory Accreditation Program  
and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791)  
NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220)  
DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.  
Test results relate only to samples analyzed.



ACCUTEST

October 20, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12669

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

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TESTING AND CERTIFICATION COMPANY.

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1

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3

4

5

6

7

8



## Sample Summary

Shell Oil

Job No: MC12669

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected		Matrix Received	Code	Type	Client Sample ID
	Date	Time By				
MC12669-1	07/27/12	09:00 KHN	M07/28/12	AQ	Ground Water	MW3-ROX-072712
MC12669-1D	07/27/12	09:00 KHN	M07/28/12	AQ	Water Dup/MSD	MW3-ROX-072712
MC12669-1S	07/27/12	09:00 KHN	M07/28/12	AQ	Water Matrix Spike	MW3-ROX-072712
MC12669-2	07/27/12	10:10 KHN	M07/28/12	AQ	Ground Water	MW12-ROX-072712
MC12669-3	07/27/12	11:05 KHN	M07/28/12	AQ	Ground Water	MW11-ROX-072712
MC12669-4	07/27/12	12:40 KHN	M07/28/12	AQ	Equipment Blank	MW10-ROX-072712 EB
MC12669-5	07/27/12	13:25 KHN	M07/28/12	AQ	Ground Water	MW10-ROX-072712
MC12669-6	07/27/12	14:20 KHN	M07/28/12	AQ	Ground Water	MW9-ROX-072712
MC12669-7	07/27/12	00:00 KHN	M07/28/12	AQ	Trip Blank Water	TB-072712-HCL
MC12669-8	07/27/12	00:00 KHN	M07/28/12	AQ	Trip Blank Water	TB-072712-ST

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Shell Oil

**Job No** MC12669

**Site:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Centra

**Report Date** 10/20/2016 10:19:49 A

6 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 07/27/2012 and were received at SGS Accutest New England on 07/28/2012 properly preserved, at 0.9 Deg. C and intact. These Samples received a job number of MC12669. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSN2498
-------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC12669-1MS, MC12669-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Acrolein, Acrylonitrile, Bromomethane, Carbon disulfide, Chloroethane, Dichlorodifluoromethane, Trichlorofluoromethane are outside control limits.
- Matrix Spike Recovery(s) for Dichlorodifluoromethane, Acrylonitrile are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Acrolein, Chloromethane, Dichlorodifluoromethane are outside control limits. Probable cause due to matrix interference.
- MSN2498-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC12669-7 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC12669-4 for Acetone: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- MC12669-4 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MSN2498-BS1 for Acrolein: Outside control limits. Associated samples are non-detect for this compound.
- MSN2498-BS1 for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC12669-1 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC12669-1MS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSN2500
-------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC12896-9MS, MC12896-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Acrylonitrile, Dichlorodifluoromethane, Bromomethane, Chloromethane, Vinyl chloride are outside control limits.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane, Chloromethane, Dichlorodifluoromethane, Acrylonitrile are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2,2-Dichloropropane, Acrolein, Trichlorofluoromethane are outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for Dichlorodifluoromethane are outside control limits for sample MC12896-9MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC12669-6 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC12669-5 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC12669-3 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC12669-2 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MSN2500-BS for Dichlorodifluoromethane: Outside control limits. Associated samples are non-detect for this compound.

Thursday, October 20, 2016

Page 1 of 2

MSN2500-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

### Volatiles by GCMS By Method SW846 8260B

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSN2500
-------------------	--------------------------

- MC12896-9MS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

### Extractables by GCMS By Method SW846 8270C

<b>Matrix:</b> AQ	<b>Batch ID:</b> OP29851
-------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC12669-1MS, MC12669-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for N-Nitrosodiphenylamine, 3&4-Methylphenol, Aniline are outside control limits.
- Matrix Spike Recovery(s) for 3&4-Methylphenol, Aniline are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Aniline, 3,3'-Dichlorobenzidine are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for MSD for 3,3'-Dichlorobenzidine, Phenol are outside control limits for sample OP29851-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- OP29851-BS for N-Nitrosodiphenylamine: Outside control limits. Associated samples are non-detect for this compound.

### Extractables by GCMS By Method SW846 8270C BY SIM

<b>Matrix:</b> AQ	<b>Batch ID:</b> OP29852
-------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC12669-1MS, MC12669-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8011

<b>Matrix:</b> AQ	<b>Batch ID:</b> OP29882
-------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC12669-1MS, MC12669-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS Accutest New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report(MC12669).



## Summary of Hits

**Job Number:** MC12669  
**Account:** Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Collected:** 07/27/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
MC12669-1	MW3-ROX-072712						
		Benzene	8.9	0.50	0.24	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.66 J	5.3	0.38	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.67 J	2.1	0.40	ug/l	SW846 8270C
		Phenanthrene	0.025 J	0.053	0.013	ug/l	SW846 8270C BY SIM
MC12669-2	MW12-ROX-072712						
		Benzene	1.3	0.50	0.24	ug/l	SW846 8260B
		Butyl benzyl phthalate	0.29 J	5.3	0.28	ug/l	SW846 8270C
		Di-n-butyl phthalate	0.63 J	5.3	0.38	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	1.9 J	2.1	0.40	ug/l	SW846 8270C
MC12669-3	MW11-ROX-072712						
		Benzene	0.73	0.50	0.24	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.57 J	5.8	0.42	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.56 J	2.3	0.44	ug/l	SW846 8270C
MC12669-4	MW10-ROX-072712 EB						
		Acetone <sup>a</sup>	6.3	5.0	3.0	ug/l	SW846 8260B
		Benzene	2.8	0.50	0.24	ug/l	SW846 8260B
		Chloroform	0.56 J	1.0	0.50	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.42 J	5.2	0.38	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.46 J	2.1	0.39	ug/l	SW846 8270C
MC12669-5	MW10-ROX-072712						
		Benzene	0.58	0.50	0.24	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.43 J	5.0	0.36	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.67 J	2.0	0.38	ug/l	SW846 8270C
MC12669-6	MW9-ROX-072712						
		Benzene	0.58	0.50	0.24	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.54 J	5.0	0.36	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.43 J	2.0	0.38	ug/l	SW846 8270C
MC12669-7	TB-072712-HCL						

No hits reported in this sample.

## Summary of Hits

Job Number: MC12669  
Account: Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
Collected: 07/27/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
---------------	------------------	--------------------	------	----	-----	-------	--------

MC12669-8 TB-072712-ST

No hits reported in this sample.

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

Sample Results

---

Report of Analysis

---

## Report of Analysis

Client Sample ID:	MW3-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-1	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66471.D	1	08/08/12	JP	n/a	n/a	MSN2498
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	8.9	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW3-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-1	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW3-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-1		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW3-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-1	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56444.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.3	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.80	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	ND	5.3	0.99	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.95	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	0.66	5.3	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW3-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-1		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.67	2.1	0.40	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.63	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	70%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW3-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-1		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3461.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.053	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.034	ug/l	
86-73-7	Fluorene	ND	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.048	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.055	ug/l	
91-20-3	Naphthalene	ND	0.11	0.038	ug/l	
85-01-8	Phenanthrene	0.025	0.053	0.013	ug/l	J
129-00-0	Pyrene	ND	0.11	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW3-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-1	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43074.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

	Initial Volume	Final Volume
Run #1	36.2 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	98%		36-173%
460-00-4	Bromofluorobenzene (S)	97%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW12-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-2	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66494.D	1	08/09/12	JP	n/a	n/a	MSN2500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	1.3	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW12-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-2	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW12-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-2		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW12-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-2	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56447.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.3	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.80	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	ND	5.3	0.99	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	0.29	5.3	0.28	ug/l	J
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.95	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	0.63	5.3	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW12-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-2		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	1.9	2.1	0.40	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.63	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	70%		15-110%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW12-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-2	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3463.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.053	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.055	ug/l	
91-20-3	Naphthalene	ND	0.11	0.038	ug/l	
85-01-8	Phenanthrene	ND	0.053	0.013	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	112%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW12-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-2	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43075.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

Run #	Initial Volume	Final Volume
Run #1	36.2 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	Bromofluorobenzene (S)	94%		36-173%		
460-00-4	Bromofluorobenzene (S)	92%		36-173%		

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW11-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-3	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66495.D	1	08/09/12	JP	n/a	n/a	MSN2500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.73	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW11-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-3	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW11-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-3		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW11-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-3	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56448.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #	Initial Volume	Final Volume
Run #1	860 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	12	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.8	0.47	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	12	0.44	ug/l	
120-83-2	2,4-Dichlorophenol	ND	12	0.43	ug/l	
105-67-9	2,4-Dimethylphenol	ND	12	3.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	23	1.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	12	5.8	ug/l	
95-48-7	2-Methylphenol	ND	12	0.70	ug/l	
	3&4-Methylphenol	ND	12	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	12	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	23	3.2	ug/l	
87-86-5	Pentachlorophenol	ND	12	0.74	ug/l	
108-95-2	Phenol	ND	5.8	1.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	12	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	12	0.41	ug/l	
62-53-3	Aniline	ND	12	2.3	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.8	0.38	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.8	0.31	ug/l	
100-51-6	Benzyl Alcohol	ND	12	0.30	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.8	0.21	ug/l	
106-47-8	4-Chloroaniline	ND	12	0.73	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.8	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.8	0.44	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.8	0.33	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.8	0.34	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.8	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	12	2.3	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	12	0.24	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.8	1.0	ug/l	
132-64-9	Dibenzofuran	ND	2.3	0.25	ug/l	
84-74-2	Di-n-butyl phthalate	0.57	5.8	0.42	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.8	0.28	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW11-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-3		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.8	0.22	ug/l	
131-11-3	Dimethyl phthalate	ND	5.8	5.8	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.56	2.3	0.44	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.8	0.29	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	12	5.8	ug/l	
67-72-1	Hexachloroethane	ND	5.8	2.3	ug/l	
78-59-1	Isophorone	ND	5.8	0.37	ug/l	
88-74-4	2-Nitroaniline	ND	12	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	12	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	12	2.3	ug/l	
98-95-3	Nitrobenzene	ND	5.8	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.8	0.69	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.8	0.32	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.8	0.51	ug/l	
110-86-1	Pyridine	ND	12	5.8	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	34%		15-110%
118-79-6	2,4,6-Tribromophenol	70%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW11-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-3	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3473.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	860 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.12	0.016	ug/l	
208-96-8	Acenaphthylene	ND	0.12	0.015	ug/l	
120-12-7	Anthracene	ND	0.12	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.058	0.035	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.12	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.058	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.12	0.044	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.12	0.068	ug/l	
218-01-9	Chrysene	ND	0.12	0.085	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.12	0.048	ug/l	
206-44-0	Fluoranthene	ND	0.12	0.038	ug/l	
86-73-7	Fluorene	ND	0.12	0.054	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.12	0.053	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.23	0.16	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.23	0.060	ug/l	
91-20-3	Naphthalene	ND	0.12	0.042	ug/l	
85-01-8	Phenanthrene	ND	0.058	0.015	ug/l	
129-00-0	Pyrene	ND	0.12	0.041	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	112%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.3  
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## Report of Analysis

<b>Client Sample ID:</b> MW11-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-3	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43076.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

	Initial Volume	Final Volume
Run #1	35.9 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	95%		36-173%
460-00-4	Bromofluorobenzene (S)	94%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW10-ROX-072712 EB	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-4	Date Received:	07/28/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66437.D	1	08/07/12	JP	n/a	n/a	MSN2498
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	6.3	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>b</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	2.8	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	0.56	1.0	0.50	ug/l	J
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW10-ROX-072712 EB	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-4	Date Received:	07/28/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712 EB	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-4	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712 EB	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-4	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56449.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.2	ug/l	
95-48-7	2-Methylphenol	ND	10	0.63	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.97	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	0.42	5.2	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW10-ROX-072712 EB	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-4	Date Received:	07/28/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	5.2	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.46	2.1	0.39	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	2.1	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	5.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		15-110%
4165-62-2	Phenol-d5	33%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712 EB	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-4	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3474.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.061	ug/l	
218-01-9	Chrysene	ND	0.10	0.076	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.048	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.054	ug/l	
91-20-3	Naphthalene	ND	0.10	0.037	ug/l	
85-01-8	Phenanthrene	ND	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	116%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712 EB	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-4	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43077.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

	Initial Volume	Final Volume
Run #1	35.8 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		36-173%
460-00-4	Bromofluorobenzene (S)	82%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b>	MW10-ROX-072712	<b>Date Sampled:</b>	07/27/12
<b>Lab Sample ID:</b>	MC12669-5	<b>Date Received:</b>	07/28/12
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B	<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66496.D	1	08/09/12	JP	n/a	n/a	MSN2500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.58	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	MW10-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-5	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-5		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-5	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56450.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.43	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-5		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.67	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-5	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3475.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	114%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.5  
4

## Report of Analysis

<b>Client Sample ID:</b> MW10-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-5	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43078.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	110%		36-173%
460-00-4	Bromofluorobenzene (S)	106%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW9-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-6	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66497.D	1	08/09/12	JP	n/a	n/a	MSN2500
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.58	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW9-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-6	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW9-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-6		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	94%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW9-ROX-072712	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-6	Date Received:	07/28/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56451.D	1	08/02/12	KR	07/30/12	OP29851	MSF2686
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.54	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW9-ROX-072712		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-6		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.43	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	49%		15-110%
4165-62-2	Phenol-d5	35%		15-110%
118-79-6	2,4,6-Tribromophenol	70%		15-110%
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW9-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-6	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3476.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	109%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.6  
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## Report of Analysis

<b>Client Sample ID:</b> MW9-ROX-072712	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-6	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43079.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

	Initial Volume	Final Volume
Run #1	35.8 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	104%		36-173%
460-00-4	Bromofluorobenzene (S)	101%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.6  
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## Report of Analysis

Client Sample ID:	TB-072712-HCL	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-7	Date Received:	07/28/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66436.D	1	08/07/12	JP	n/a	n/a	MSN2498
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-072712-HCL	Date Sampled:	07/27/12
Lab Sample ID:	MC12669-7	Date Received:	07/28/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-072712-HCL		<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-7		<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> TB-072712-ST	<b>Date Sampled:</b> 07/27/12
<b>Lab Sample ID:</b> MC12669-8	<b>Date Received:</b> 07/28/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB43081.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
Run #2							

Run #	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	92%		36-173%
460-00-4	Bromofluorobenzene (S)	85%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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**Misc. Forms****Custody Documents and Other Forms**

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



# Shell Oil Products Chain Of Custody Record

**URS**

LAB (LOCATION)  
 XENCO  
 CALSCEIN  
 OTHER  
 SPL  
 Lab Vendor #

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SO&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Erik Arthur  
 INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0  
 CHECK IF NO INCIDENT # APPLIES  
 DATE: 7/27/12  
 PAGE: 1 of 1

LABORATORY COMPANY: URS CORPORATION  
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110  
 PROJECT CONTACT (Name): Erik Arthur  
 TELEPHONE: 314-265-1553 FAX: 314-429-0462  
 E-MAIL: erik.arthur@urscorp.com

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA  
 STATE: IL GLOBAL ID NO:  
 CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00008

TURNAROUND TIME (CALENDAR DAYS)  
 STANDARD (10 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  RESULTS NEEDED ON WEEKEND

SAMPLER NAME: K. Hurst / N. McNurley  
 LAB USE ONLY: MC12669

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) EDD

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES:  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.

FIELD NOTES:  
 TEMPERATURE ON RECEIPT C:  
 Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011	SVOC 8279C SL+TICS	PAH 8270LL	PID (ppm)
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER						
-1SD	MW3-ROX-072712	7/27	0900	Water	2			2	2	6	X	X	X	X	
-1SD	MW3-ROX-072712 MS		0900		2			2	2	6	X	X	X	X	
-1SD	MW3-ROX-072712 MSD		0900		2			2	2	6	X	X	X	X	
-2	MW12-ROX-072712		1010		2			2	2	4	X	X	X	X	
-3	MW11-ROX-072712		1105		2			2	2	4	Y	X	X	X	
-4	MW10-ROX-072712 EB		1240		2			2	2	4	Y	Y	X	X	19C, 4B3
-5	MW10-ROX-072712		1325		2			2	2	6	X	Y	X	X	
-6	MW9-ROX-072712		1420		2			2	2	6	X	X	X	X	
-7	TB-072712-HCL				2					2	X				
-8	TB-072712-ST							2	2		X				

Relinquished by (Signature): <i>[Signature]</i>	Received by (Signature): <i>[Signature]</i>	Date: 7/27/12	Time: 1500
Relinquished by (Signature): FedEx	Received by (Signature): <i>[Signature]</i>	Date: 7/28/12	Time: 10:00
Relinquished by (Signature):	Received by (Signature):	Date:	Time:

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## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC12669      Client: URS      Immediate Client Services Action Required: No  
 Date / Time Received: 7/28/2012      Delivery Method: \_\_\_\_\_      Client Service Action Required at Login: No  
 Project: 900 SOUTH CENTRAL      No. Coolers: 1      Airbill #'s: \_\_\_\_\_

**Cooler Security**

<u>Y or N</u>	<u>Y or N</u>
1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/>

**Cooler Temperature**

<u>Y or N</u>
1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification: <u>Infrared gun</u>
3. Cooler media: <u>Ice (bag)</u>

**Quality Control Preservation**

<u>Y or N</u>	<u>N/A</u>
1. Trip Blank present / cooler: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
2. Trip Blank listed on COC: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
4. VOCs headspace free: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

**Sample Integrity - Documentation**

<u>Y or N</u>
1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/>
3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/>

**Sample Integrity - Condition**

<u>Y or N</u>
1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/>
3. Condition of sample: <u>Intact</u>

**Sample Integrity - Instructions**

<u>Y or N</u>	<u>N/A</u>
1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/>	
2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/>	
4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	
5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	

Comments

## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12669

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

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Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12669-1 Collected: 27-JUL-12 09:00 By: KHNM Received: 28-JUL-12 By: MW3-ROX-072712						
MC12669-1	SW846 8270C	BY SIM 01-AUG-12 10:01	KR	30-JUL-12	MS	B8270SIMPAH
MC12669-1	SW846 8270C	01-AUG-12 21:25	KR	30-JUL-12	MS	AB8270SL +
MC12669-1	SW846 8011	04-AUG-12 03:26	CZ	01-AUG-12	BJ	V8011SL
MC12669-1	SW846 8260B	08-AUG-12 10:04	JP			V8260SL +
MC12669-2 Collected: 27-JUL-12 10:10 By: KHNM Received: 28-JUL-12 By: MW12-ROX-072712						
MC12669-2	SW846 8270C	BY SIM 01-AUG-12 10:46	KR	30-JUL-12	MS	B8270SIMPAH
MC12669-2	SW846 8270C	01-AUG-12 22:32	KR	30-JUL-12	MS	AB8270SL +
MC12669-2	SW846 8011	04-AUG-12 03:52	CZ	01-AUG-12	BJ	V8011SL
MC12669-2	SW846 8260B	09-AUG-12 14:34	JP			V8260SL +
MC12669-3 Collected: 27-JUL-12 11:05 By: KHNM Received: 28-JUL-12 By: MW11-ROX-072712						
MC12669-3	SW846 8270C	BY SIM 01-AUG-12 12:15	KR	30-JUL-12	MS	B8270SIMPAH
MC12669-3	SW846 8270C	01-AUG-12 22:55	KR	30-JUL-12	MS	AB8270SL +
MC12669-3	SW846 8011	04-AUG-12 04:18	CZ	01-AUG-12	BJ	V8011SL
MC12669-3	SW846 8260B	09-AUG-12 15:02	JP			V8260SL +
MC12669-4 Collected: 27-JUL-12 12:40 By: KHNM Received: 28-JUL-12 By: MW10-ROX-072712 EB						
MC12669-4	SW846 8270C	BY SIM 01-AUG-12 12:37	KR	30-JUL-12	MS	B8270SIMPAH
MC12669-4	SW846 8270C	01-AUG-12 23:17	KR	30-JUL-12	MS	AB8270SL +
MC12669-4	SW846 8011	04-AUG-12 04:45	CZ	01-AUG-12	BJ	V8011SL
MC12669-4	SW846 8260B	07-AUG-12 18:02	JP			V8260SL +
MC12669-5 Collected: 27-JUL-12 13:25 By: KHNM Received: 28-JUL-12 By: MW10-ROX-072712						
MC12669-5	SW846 8270C	BY SIM 01-AUG-12 12:59	KR	30-JUL-12	MS	B8270SIMPAH
MC12669-5	SW846 8270C	01-AUG-12 23:40	KR	30-JUL-12	MS	AB8270SL +
MC12669-5	SW846 8011	04-AUG-12 05:11	CZ	01-AUG-12	BJ	V8011SL
MC12669-5	SW846 8260B	09-AUG-12 15:30	JP			V8260SL +

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12669

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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MC12669-6 Collected: 27-JUL-12 14:20 By: KHNM Received: 28-JUL-12 By: MW9-ROX-072712

MC12669-6 SW846 8270C BY SIM	01-AUG-12 13:22	KR	30-JUL-12	MS	B8270SIMP	PAH
MC12669-6 SW846 8270C	02-AUG-12 00:03	KR	30-JUL-12	MS	AB8270SL	+
MC12669-6 SW846 8011	04-AUG-12 05:38	CZ	01-AUG-12	BJ	V8011SL	
MC12669-6 SW846 8260B	09-AUG-12 15:58	JP			V8260SL	+

MC12669-7 Collected: 27-JUL-12 00:00 By: KHNM Received: 28-JUL-12 By: TB-072712-HCL

MC12669-7 SW846 8260B	07-AUG-12 17:34	JP			V8260SL	+
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MC12669-8 Collected: 27-JUL-12 00:00 By: KHNM Received: 28-JUL-12 By: TB-072712-ST

MC12669-8 SW846 8011	04-AUG-12 06:31	CZ	01-AUG-12	BJ	V8011SL	
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# SGS Accutest Internal Chain of Custody

**Job Number:** MC12669  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 07/28/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12669-1.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-1.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-1.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-1.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-1.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-1.4	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-1.4	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-1.4	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-1.4	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-1.4	Scott Parsick		09/19/12 12:19	Disposed
MC12669-1.6	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-1.6	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-1.7	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-1.7	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-1.9	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-1.9	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-1.9	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-1.9	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-1.9	Scott Parsick		09/19/12 12:19	Disposed
MC12669-1.10	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-1.10	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-1.10	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-1.10	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-1.10	Scott Parsick		09/19/12 12:19	Disposed
MC12669-1.12	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-1.12	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-1.13	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-1.13	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-1.14	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-1.14	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-1.15	VOC Ref #4	Jugal Patel	08/08/12 09:24	Retrieve from Storage
MC12669-1.15	Jugal Patel	GCMSN	08/08/12 09:24	Load on Instrument
MC12669-1.15	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-1.15	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-1.15	Scott Parsick		09/19/12 12:19	Disposed

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# SGS Accutest Internal Chain of Custody

**Job Number:** MC12669  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 07/28/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12669-1.17	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-1.17	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-2.1	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-2.1	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-2.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-2.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-2.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-2.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-2.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-2.4	VOC Ref #4	Jugal Patel	08/08/12 12:44	Retrieve from Storage
MC12669-2.4	Jugal Patel	GCMSN	08/08/12 12:44	Load on Instrument
MC12669-2.4	GCMSN	Jugal Patel	08/10/12 10:13	Unload from Instrument
MC12669-2.4	Jugal Patel	VOC Ref #4	08/10/12 10:13	Return to Storage
MC12669-2.4	Scott Parsick		09/19/12 12:19	Disposed
MC12669-2.5	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-2.5	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-3.2	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-3.2	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-3.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-3.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-3.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-3.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-3.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-3.4	VOC Ref #4	Jugal Patel	08/08/12 12:44	Retrieve from Storage
MC12669-3.4	Jugal Patel	GCMSN	08/08/12 12:44	Load on Instrument
MC12669-3.4	GCMSN	Jugal Patel	08/10/12 10:13	Unload from Instrument
MC12669-3.4	Jugal Patel	VOC Ref #4	08/10/12 10:13	Return to Storage
MC12669-3.4	Scott Parsick		09/19/12 12:19	Disposed
MC12669-3.5	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-3.5	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-4.2	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-4.2	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-4.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage

5.3  
5



# SGS Accutest Internal Chain of Custody

**Job Number:** MC12669  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 07/28/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12669-4.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-4.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-4.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-4.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-4.6	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-4.6	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-5.1	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-5.1	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-5.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-5.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-5.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-5.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-5.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-5.4	VOC Ref #4	Jugal Patel	08/08/12 12:44	Retrieve from Storage
MC12669-5.4	Jugal Patel	GCMSN	08/08/12 12:44	Load on Instrument
MC12669-5.4	GCMSN	Jugal Patel	08/10/12 10:13	Unload from Instrument
MC12669-5.4	Jugal Patel	VOC Ref #4	08/10/12 10:13	Return to Storage
MC12669-5.4	Scott Parsick		09/19/12 12:19	Disposed
MC12669-5.6	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-5.6	Bijan Jafari		08/24/12 10:20	Depleted
MC12669-6.1	Walk In Ref #22	Nick Krasinski	07/30/12 14:18	Retrieve from Storage
MC12669-6.1	Nick Krasinski		07/30/12 22:48	Depleted
MC12669-6.3	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-6.3	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-6.3	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-6.3	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-6.3	Scott Parsick		09/19/12 12:19	Disposed
MC12669-6.4	VOC Ref #4	Jugal Patel	08/08/12 12:44	Retrieve from Storage
MC12669-6.4	Jugal Patel	GCMSN	08/08/12 12:44	Load on Instrument
MC12669-6.4	GCMSN	Jugal Patel	08/10/12 10:13	Unload from Instrument
MC12669-6.4	Jugal Patel	VOC Ref #4	08/10/12 10:13	Return to Storage
MC12669-6.4	Scott Parsick		09/19/12 12:19	Disposed
MC12669-6.6	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-6.6	Bijan Jafari		08/24/12 10:20	Depleted

5.3  
5

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12669  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 07/28/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12669-7.1	VOC Ref #4	Jugal Patel	08/07/12 16:08	Retrieve from Storage
MC12669-7.1	Jugal Patel	GCMSN	08/07/12 16:08	Load on Instrument
MC12669-7.1	GCMSN	Jugal Patel	08/08/12 10:02	Unload from Instrument
MC12669-7.1	Jugal Patel	VOC Ref #4	08/08/12 10:02	Return to Storage
MC12669-7.1	Scott Parsick		09/19/12 12:19	Disposed
MC12669-8.1	VOC Ref #4	Bijan Jafari	08/01/12 11:40	Retrieve from Storage
MC12669-8.1	Bijan Jafari		08/24/12 10:20	Depleted

5.3  
5

## GC/MS Volatiles

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB	N66435.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-4, MC12669-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB	N66435.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-4, MC12669-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12669  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB	N66435.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-4, MC12669-7

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	85% 70-130%
2037-26-5	Toluene-D8	98% 70-130%
460-00-4	4-Bromofluorobenzene	94% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB1	N66464.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB1	N66464.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	



# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-MB1	N66464.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 70-130%
2037-26-5	Toluene-D8	99% 70-130%
460-00-4	4-Bromofluorobenzene	99% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.2  
6

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-MB	N66487.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-MB	N66487.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12669  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-MB	N66487.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	106%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS1	N66462.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	48.8	98	70-130
107-02-8	Acrolein	250	486	194* a	70-130
107-13-1	Acrylonitrile	50	218	436* a	70-130
71-43-2	Benzene	50	44.5	89	70-130
108-86-1	Bromobenzene	50	47.2	94	70-130
74-97-5	Bromochloromethane	50	46.5	93	70-130
75-27-4	Bromodichloromethane	50	47.2	94	70-130
75-25-2	Bromoform	50	49.6	99	70-130
74-83-9	Bromomethane	50	74.5	149* b	70-130
78-93-3	2-Butanone (MEK)	50	49.4	99	70-130
104-51-8	n-Butylbenzene	50	48.3	97	70-130
135-98-8	sec-Butylbenzene	50	52.0	104	70-130
98-06-6	tert-Butylbenzene	50	51.3	103	70-130
75-15-0	Carbon disulfide	50	34.3	69* b	70-130
56-23-5	Carbon tetrachloride	50	48.8	98	70-130
108-90-7	Chlorobenzene	50	50.1	100	70-130
75-00-3	Chloroethane	50	72.7	145* b	70-130
110-75-8	2-Chloroethyl vinyl ether	50	44.9	90	70-130
67-66-3	Chloroform	50	45.3	91	70-130
74-87-3	Chloromethane	50	59.7	119	70-130
95-49-8	o-Chlorotoluene	50	48.3	97	70-130
106-43-4	p-Chlorotoluene	50	49.5	99	70-130
124-48-1	Dibromochloromethane	50	52.1	104	70-130
95-50-1	1,2-Dichlorobenzene	50	50.8	102	70-130
541-73-1	1,3-Dichlorobenzene	50	49.6	99	70-130
106-46-7	1,4-Dichlorobenzene	50	47.0	94	70-130
75-71-8	Dichlorodifluoromethane	50	40.3	81	70-130
75-34-3	1,1-Dichloroethane	50	44.4	89	70-130
107-06-2	1,2-Dichloroethane	50	46.5	93	70-130
75-35-4	1,1-Dichloroethene	50	45.5	91	70-130
156-59-2	cis-1,2-Dichloroethene	50	46.6	93	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.0	86	70-130
78-87-5	1,2-Dichloropropane	50	44.6	89	70-130
142-28-9	1,3-Dichloropropane	50	45.9	92	70-130
594-20-7	2,2-Dichloropropane	50	37.2	74	70-130
563-58-6	1,1-Dichloropropene	50	44.7	89	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS1	N66462.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	48.9	98	70-130
10061-02-6	trans-1,3-Dichloropropene	50	49.3	99	70-130
123-91-1	1,4-Dioxane	250	277	111	70-130
97-63-2	Ethyl methacrylate	50	53.4	107	77-137
100-41-4	Ethylbenzene	50	45.1	90	70-130
87-68-3	Hexachlorobutadiene	50	50.4	101	70-130
591-78-6	2-Hexanone	50	48.2	96	70-130
98-82-8	Isopropylbenzene	50	49.6	99	70-130
99-87-6	p-Isopropyltoluene	50	50.9	102	70-130
1634-04-4	Methyl Tert Butyl Ether	50	48.0	96	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.9	102	70-130
74-95-3	Methylene bromide	50	52.1	104	70-130
75-09-2	Methylene chloride	50	42.9	86	70-130
103-65-1	n-Propylbenzene	50	50.0	100	70-130
100-42-5	Styrene	50	49.6	99	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	48.1	96	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	51.4	103	70-130
127-18-4	Tetrachloroethene	50	43.9	88	70-130
108-88-3	Toluene	50	47.3	95	70-130
87-61-6	1,2,3-Trichlorobenzene	50	48.9	98	70-130
120-82-1	1,2,4-Trichlorobenzene	50	47.7	95	70-130
71-55-6	1,1,1-Trichloroethane	50	45.3	91	70-130
79-00-5	1,1,2-Trichloroethane	50	47.0	94	70-130
79-01-6	Trichloroethene	50	43.8	88	70-130
75-69-4	Trichlorofluoromethane	50	43.4	87	70-130
96-18-4	1,2,3-Trichloropropane	50	48.1	96	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.2	96	70-130
108-67-8	1,3,5-Trimethylbenzene	50	45.6	91	70-130
108-05-4	Vinyl Acetate	50	44.2	88	70-130
75-01-4	Vinyl chloride	50	50.2	100	70-130
	m,p-Xylene	100	94.8	95	70-130
95-47-6	o-Xylene	50	52.1	104	70-130
1330-20-7	Xylene (total)	150	147	98	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12669  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS1	N66462.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	101%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS	N66432.D	1	08/07/12	JP	n/a	n/a	MSN2498
MSN2498-BSD	N66433.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	37.9	76	39.3	79	4	70-130/25
107-02-8	Acrolein	250	315	126	327	131* a	4	70-130/25
107-13-1	Acrylonitrile	50	224	448* b	238	476* b	6	70-130/25
71-43-2	Benzene	50	44.9	90	45.5	91	1	70-130/25
108-86-1	Bromobenzene	50	50.4	101	53.0	106	5	70-130/25
74-97-5	Bromochloromethane	50	45.2	90	45.2	90	0	70-130/25
75-27-4	Bromodichloromethane	50	44.0	88	45.5	91	3	70-130/25
75-25-2	Bromoform	50	54.9	110	56.1	112	2	70-130/25
74-83-9	Bromomethane	50	44.9	90	45.0	90	0	70-130/25
78-93-3	2-Butanone (MEK)	50	46.2	92	51.3	103	10	70-130/25
104-51-8	n-Butylbenzene	50	52.2	104	51.9	104	1	70-130/25
135-98-8	sec-Butylbenzene	50	53.8	108	55.8	112	4	70-130/25
98-06-6	tert-Butylbenzene	50	50.9	102	52.3	105	3	70-130/25
75-15-0	Carbon disulfide	50	33.1	66* a	33.5	67* a	1	70-130/25
56-23-5	Carbon tetrachloride	50	43.2	86	43.0	86	0	70-130/25
108-90-7	Chlorobenzene	50	54.8	110	54.6	109	0	70-130/25
75-00-3	Chloroethane	50	40.3	81	39.0	78	3	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	45.4	91	46.7	93	3	70-130/25
67-66-3	Chloroform	50	39.8	80	41.2	82	3	70-130/25
74-87-3	Chloromethane	50	42.1	84	38.8	78	8	70-130/25
95-49-8	o-Chlorotoluene	50	49.4	99	50.5	101	2	70-130/25
106-43-4	p-Chlorotoluene	50	51.1	102	53.0	106	4	70-130/25
124-48-1	Dibromochloromethane	50	54.8	110	55.1	110	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	53.5	107	55.5	111	4	70-130/25
541-73-1	1,3-Dichlorobenzene	50	53.5	107	54.4	109	2	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.6	101	52.5	105	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	27.7	55* a	28.4	57* a	2	70-130/25
75-34-3	1,1-Dichloroethane	50	40.7	81	41.2	82	1	70-130/25
107-06-2	1,2-Dichloroethane	50	37.3	75	39.1	78	5	70-130/25
75-35-4	1,1-Dichloroethene	50	44.9	90	45.0	90	0	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	44.7	89	45.1	90	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	43.1	86	45.5	91	5	70-130/25
78-87-5	1,2-Dichloropropane	50	45.1	90	46.4	93	3	70-130/25
142-28-9	1,3-Dichloropropane	50	47.7	95	47.8	96	0	70-130/25
594-20-7	2,2-Dichloropropane	50	41.9	84	41.8	84	0	70-130/25
563-58-6	1,1-Dichloropropene	50	43.5	87	43.0	86	1	70-130/25

\* = Outside of Control Limits.



# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS	N66432.D	1	08/07/12	JP	n/a	n/a	MSN2498
MSN2498-BSD	N66433.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	49.6	99	51.2	102	3	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	47.3	95	48.6	97	3	70-130/25
123-91-1	1,4-Dioxane	250	271	108	290	116	7	70-130/25
97-63-2	Ethyl methacrylate	50	55.9	112	56.7	113	1	77-137/25
100-41-4	Ethylbenzene	50	48.4	97	48.1	96	1	70-130/25
87-68-3	Hexachlorobutadiene	50	53.8	108	56.3	113	5	70-130/25
591-78-6	2-Hexanone	50	51.0	102	55.4	111	8	70-130/25
98-82-8	Isopropylbenzene	50	52.4	105	53.5	107	2	70-130/25
99-87-6	p-Isopropyltoluene	50	55.0	110	56.2	112	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	44.4	89	45.6	91	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.1	100	53.2	106	6	70-130/25
74-95-3	Methylene bromide	50	47.0	94	48.9	98	4	70-130/25
75-09-2	Methylene chloride	50	40.5	81	41.2	82	2	70-130/25
103-65-1	n-Propylbenzene	50	53.9	108	54.4	109	1	70-130/25
100-42-5	Styrene	50	54.4	109	53.8	108	1	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.0	104	52.4	105	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	53.6	107	56.7	113	6	70-130/25
127-18-4	Tetrachloroethene	50	51.7	103	50.2	100	3	70-130/25
108-88-3	Toluene	50	47.4	95	47.8	96	1	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	52.7	105	54.5	109	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	52.9	106	54.1	108	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	39.8	80	38.9	78	2	70-130/25
79-00-5	1,1,2-Trichloroethane	50	46.0	92	46.9	94	2	70-130/25
79-01-6	Trichloroethene	50	44.3	89	44.6	89	1	70-130/25
75-69-4	Trichlorofluoromethane	50	32.6	65* a	31.9	64* a	2	70-130/25
96-18-4	1,2,3-Trichloropropane	50	50.6	101	54.5	109	7	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	51.1	102	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	47.7	95	49.6	99	4	70-130/25
108-05-4	Vinyl Acetate	50	49.2	98	50.5	101	3	70-130/25
75-01-4	Vinyl chloride	50	37.1	74	37.5	75	1	70-130/25
	m,p-Xylene	100	105	105	104	104	1	70-130/25
95-47-6	o-Xylene	50	56.6	113	55.7	111	2	70-130/25
1330-20-7	Xylene (total)	150	162	108	160	107	1	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2498-BS	N66432.D	1	08/07/12	JP	n/a	n/a	MSN2498
MSN2498-BSD	N66433.D	1	08/07/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	86%	85%	70-130%
2037-26-5	Toluene-D8	100%	98%	70-130%
460-00-4	4-Bromofluorobenzene	93%	93%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-BS	N66484.D	1	08/09/12	JP	n/a	n/a	MSN2500
MSN2500-BSD	N66485.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	48.0	96	45.2	90	6	70-130/25
107-02-8	Acrolein	250	299	120	290	116	3	70-130/25
107-13-1	Acrylonitrile	50	257	514* a	255	510* a	1	70-130/25
71-43-2	Benzene	50	50.8	102	47.0	94	8	70-130/25
108-86-1	Bromobenzene	50	54.9	110	49.3	99	11	70-130/25
74-97-5	Bromochloromethane	50	49.6	99	48.7	97	2	70-130/25
75-27-4	Bromodichloromethane	50	52.3	105	48.8	98	7	70-130/25
75-25-2	Bromoform	50	60.5	121	53.3	107	13	70-130/25
74-83-9	Bromomethane	50	67.1	134* b	59.5	119	12	70-130/25
78-93-3	2-Butanone (MEK)	50	53.2	106	51.8	104	3	70-130/25
104-51-8	n-Butylbenzene	50	58.1	116	50.5	101	14	70-130/25
135-98-8	sec-Butylbenzene	50	62.7	125	55.0	110	13	70-130/25
98-06-6	tert-Butylbenzene	50	61.2	122	54.2	108	12	70-130/25
75-15-0	Carbon disulfide	50	43.7	87	39.4	79	10	70-130/25
56-23-5	Carbon tetrachloride	50	59.5	119	54.3	109	9	70-130/25
108-90-7	Chlorobenzene	50	58.6	117	51.2	102	13	70-130/25
75-00-3	Chloroethane	50	51.6	103	47.4	95	8	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	51.0	102	46.7	93	9	70-130/25
67-66-3	Chloroform	50	49.8	100	46.3	93	7	70-130/25
74-87-3	Chloromethane	50	80.0	160* b	74.6	149* b	7	70-130/25
95-49-8	o-Chlorotoluene	50	56.7	113	50.7	101	11	70-130/25
106-43-4	p-Chlorotoluene	50	58.5	117	53.0	106	10	70-130/25
124-48-1	Dibromochloromethane	50	61.3	123	54.3	109	12	70-130/25
95-50-1	1,2-Dichlorobenzene	50	56.7	113	51.5	103	10	70-130/25
541-73-1	1,3-Dichlorobenzene	50	58.0	116	52.5	105	10	70-130/25
106-46-7	1,4-Dichlorobenzene	50	54.4	109	49.5	99	9	70-130/25
75-71-8	Dichlorodifluoromethane	50	84.5	169* a	73.8	148* a	14	70-130/25
75-34-3	1,1-Dichloroethane	50	50.6	101	46.6	93	8	70-130/25
107-06-2	1,2-Dichloroethane	50	50.2	100	46.4	93	8	70-130/25
75-35-4	1,1-Dichloroethene	50	54.5	109	50.4	101	8	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	52.5	105	46.9	94	11	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	52.4	105	46.9	94	11	70-130/25
78-87-5	1,2-Dichloropropane	50	50.6	101	46.4	93	9	70-130/25
142-28-9	1,3-Dichloropropane	50	52.4	105	46.8	94	11	70-130/25
594-20-7	2,2-Dichloropropane	50	56.3	113	51.1	102	10	70-130/25
563-58-6	1,1-Dichloropropene	50	52.3	105	49.1	98	6	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-BS	N66484.D	1	08/09/12	JP	n/a	n/a	MSN2500
MSN2500-BSD	N66485.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	55.8	112	51.9	104	7	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	54.5	109	50.5	101	8	70-130/25
123-91-1	1,4-Dioxane	250	281	112	278	111	1	70-130/25
97-63-2	Ethyl methacrylate	50	59.8	120	55.4	111	8	77-137/25
100-41-4	Ethylbenzene	50	53.8	108	46.2	92	15	70-130/25
87-68-3	Hexachlorobutadiene	50	60.9	122	55.3	111	10	70-130/25
591-78-6	2-Hexanone	50	53.9	108	49.8	100	8	70-130/25
98-82-8	Isopropylbenzene	50	60.7	121	53.8	108	12	70-130/25
99-87-6	p-Isopropyltoluene	50	59.9	120	54.6	109	9	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	54.4	109	52.1	104	4	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.7	105	51.7	103	2	70-130/25
74-95-3	Methylene bromide	50	54.9	110	51.8	104	6	70-130/25
75-09-2	Methylene chloride	50	48.8	98	44.4	89	9	70-130/25
103-65-1	n-Propylbenzene	50	61.7	123	54.1	108	13	70-130/25
100-42-5	Styrene	50	57.1	114	50.8	102	12	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	59.2	118	51.3	103	14	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	57.5	115	54.9	110	5	70-130/25
127-18-4	Tetrachloroethene	50	57.8	116	47.9	96	19	70-130/25
108-88-3	Toluene	50	53.8	108	49.4	99	9	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	54.2	108	49.9	100	8	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	54.8	110	50.7	101	8	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.7	105	48.8	98	8	70-130/25
79-00-5	1,1,2-Trichloroethane	50	49.1	98	47.0	94	4	70-130/25
79-01-6	Trichloroethene	50	52.8	106	47.6	95	10	70-130/25
75-69-4	Trichlorofluoromethane	50	47.3	95	42.2	84	11	70-130/25
96-18-4	1,2,3-Trichloropropane	50	56.8	114	53.2	106	7	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	56.6	113	49.6	99	13	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	54.7	109	49.0	98	11	70-130/25
108-05-4	Vinyl Acetate	50	58.5	117	54.1	108	8	70-130/25
75-01-4	Vinyl chloride	50	66.5	133* b	58.7	117	12	70-130/25
	m,p-Xylene	100	114	114	99.3	99	14	70-130/25
95-47-6	o-Xylene	50	60.7	121	52.3	105	15	70-130/25
1330-20-7	Xylene (total)	150	175	117	152	101	14	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2500-BS	N66484.D	1	08/09/12	JP	n/a	n/a	MSN2500
MSN2500-BSD	N66485.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	93%	70-130%
2037-26-5	Toluene-D8	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	99%	97%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12669-1MS	N66455.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1MSD	N66456.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1	N66471.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Compound	MC12669-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	50	53.9	108	50	54.7	109	1	70-130/30
107-02-8	Acrolein	ND	250	312	125	250	330	132* a	6	70-130/30
107-13-1	Acrylonitrile	ND	50	252	504* b	50	263	526* b	4	70-130/30
71-43-2	Benzene	8.9	50	57.6	98	50	56.6	96	2	70-130/30
108-86-1	Bromobenzene	ND	50	50.5	101	50	52.4	105	4	70-130/30
74-97-5	Bromochloromethane	ND	50	50.1	100	50	53.1	106	6	70-130/30
75-27-4	Bromodichloromethane	ND	50	55.7	111	50	53.7	107	4	70-130/30
75-25-2	Bromoform	ND	50	52.4	105	50	55.2	110	5	70-130/30
74-83-9	Bromomethane	ND	50	48.7	97	50	59.8	120	20	70-130/30
78-93-3	2-Butanone (MEK)	ND	50	50.8	102	50	54.8	110	8	70-130/30
104-51-8	n-Butylbenzene	ND	50	53.6	107	50	55.0	110	3	70-130/30
135-98-8	sec-Butylbenzene	ND	50	58.4	117	50	58.5	117	0	70-130/30
98-06-6	tert-Butylbenzene	ND	50	58.4	117	50	57.3	115	2	70-130/30
75-15-0	Carbon disulfide	ND	50	44.2	88	50	42.9	86	3	70-130/30
56-23-5	Carbon tetrachloride	ND	50	59.2	118	50	58.8	118	1	70-130/30
108-90-7	Chlorobenzene	ND	50	53.8	108	50	54.2	108	1	70-130/30
75-00-3	Chloroethane	ND	50	51.8	104	50	52.5	105	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	50	49.8	100	50	48.8	98	2	70-130/30
67-66-3	Chloroform	ND	50	52.5	105	50	51.0	102	3	70-130/30
74-87-3	Chloromethane	ND	50	59.1	118	50	70.3	141* a	17	70-130/30
95-49-8	o-Chlorotoluene	ND	50	54.0	108	50	54.0	108	0	70-130/30
106-43-4	p-Chlorotoluene	ND	50	57.0	114	50	55.8	112	2	70-130/30
124-48-1	Dibromochloromethane	ND	50	56.3	113	50	56.6	113	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	50	54.4	109	50	54.2	108	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	50	53.7	107	50	53.6	107	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	50	51.2	102	50	51.5	103	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND	50	79.8	160* a	50	75.7	151* a	5	70-130/30
75-34-3	1,1-Dichloroethane	ND	50	52.5	105	50	51.2	102	3	70-130/30
107-06-2	1,2-Dichloroethane	ND	50	52.3	105	50	50.4	101	4	70-130/30
75-35-4	1,1-Dichloroethene	ND	50	55.2	110	50	53.7	107	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	50	52.1	104	50	51.6	103	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	50	48.4	97	50	50.9	102	5	70-130/30
78-87-5	1,2-Dichloropropane	ND	50	49.4	99	50	48.5	97	2	70-130/30
142-28-9	1,3-Dichloropropane	ND	50	49.3	99	50	50.5	101	2	70-130/30
594-20-7	2,2-Dichloropropane	ND	50	48.5	97	50	48.5	97	0	70-130/30
563-58-6	1,1-Dichloropropene	ND	50	52.9	106	50	51.6	103	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12669-1MS	N66455.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1MSD	N66456.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1	N66471.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Compound	MC12669-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	50	53.9	108	50	53.5	107	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	50	52.4	105	50	53.1	106	1	70-130/30
123-91-1	1,4-Dioxane	ND	250	263	105	250	269	108	2	70-130/30
97-63-2	Ethyl methacrylate	ND	50	57.9	116	50	61.0	122	5	72-139/30
100-41-4	Ethylbenzene	ND	50	50.0	100	50	50.4	101	1	70-130/30
87-68-3	Hexachlorobutadiene	ND	50	54.9	110	50	54.4	109	1	70-130/30
591-78-6	2-Hexanone	ND	50	50.9	102	50	54.1	108	6	70-130/30
98-82-8	Isopropylbenzene	ND	50	56.8	114	50	57.3	115	1	70-130/30
99-87-6	p-Isopropyltoluene	ND	50	56.5	113	50	56.5	113	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	50	52.5	104	50	55.3	109	5	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	52.7	105	50	56.9	114	8	70-130/30
74-95-3	Methylene bromide	ND	50	53.6	107	50	55.9	112	4	70-130/30
75-09-2	Methylene chloride	ND	50	47.6	95	50	47.1	94	1	70-130/30
103-65-1	n-Propylbenzene	ND	50	57.8	116	50	57.4	115	1	70-130/30
100-42-5	Styrene	ND	50	52.1	104	50	53.2	106	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	54.5	109	50	53.1	106	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	54.1	108	50	56.6	113	5	70-130/30
127-18-4	Tetrachloroethene	ND	50	50.8	99	50	51.0	99	0	70-130/30
108-88-3	Toluene	ND	50	51.9	104	50	51.4	103	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	50	49.9	100	50	52.6	105	5	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	50	49.6	99	50	51.7	103	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	50	54.9	110	50	53.3	107	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	50	48.8	98	50	51.1	102	5	70-130/30
79-01-6	Trichloroethene	ND	50	52.0	104	50	50.5	101	3	70-130/30
75-69-4	Trichlorofluoromethane	ND	50	48.5	97	50	47.9	96	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	50	52.0	104	50	54.4	109	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	50	53.2	106	50	53.5	107	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	50	51.7	103	50	51.3	103	1	70-130/30
108-05-4	Vinyl Acetate	ND	50	57.5	115	50	61.6	123	7	70-130/30
75-01-4	Vinyl chloride	ND	50	55.1	110	50	58.5	117	6	70-130/30
	m,p-Xylene	ND	100	104	104	100	103	103	1	70-130/30
95-47-6	o-Xylene	ND	50	55.8	112	50	55.3	111	1	70-130/30
1330-20-7	Xylene (total)	ND	150	160	107	150	159	106	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12669-1MS	N66455.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1MSD	N66456.D	1	08/08/12	JP	n/a	n/a	MSN2498
MC12669-1	N66471.D	1	08/08/12	JP	n/a	n/a	MSN2498

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-1, MC12669-4, MC12669-7

CAS No.	Surrogate Recoveries	MS	MSD	MC12669-1	Limits
1868-53-7	Dibromofluoromethane	97%	96%	104%	70-130%
2037-26-5	Toluene-D8	99%	101%	98%	70-130%
460-00-4	4-Bromofluorobenzene	98%	100%	103%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12896-9MS	N66507.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9MSD	N66508.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9	N66505.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	MC12896-9 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	250	249	100	250	267	107	7	70-130/30
107-02-8	Acrolein	ND	1250	1350	108	1250	1820	146* a	30	70-130/30
107-13-1	Acrylonitrile	ND	250	1150	460* b	250	1490	596* b	26	70-130/30
71-43-2	Benzene	5.4	250	243	95	250	248	97	2	70-130/30
108-86-1	Bromobenzene	ND	250	243	97	250	226	90	7	70-130/30
74-97-5	Bromochloromethane	ND	250	233	93	250	261	104	11	70-130/30
75-27-4	Bromodichloromethane	ND	250	259	104	250	215	86	19	70-130/30
75-25-2	Bromoform	ND	250	245	98	250	240	96	2	70-130/30
74-83-9	Bromomethane	ND	250	274	110	250	326	130	17	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	224	90	250	291	116	26	70-130/30
104-51-8	n-Butylbenzene	ND	250	256	102	250	226	90	12	70-130/30
135-98-8	sec-Butylbenzene	ND	250	268	107	250	237	95	12	70-130/30
98-06-6	tert-Butylbenzene	ND	250	269	108	250	225	90	18	70-130/30
75-15-0	Carbon disulfide	ND	250	188	75	250	219	88	15	70-130/30
56-23-5	Carbon tetrachloride	ND	250	255	102	250	190	76	29	70-130/30
108-90-7	Chlorobenzene	ND	250	262	105	250	275	110	5	70-130/30
75-00-3	Chloroethane	ND	250	231	92	250	283	113	20	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	250	239	96	250	252	101	5	70-130/30
67-66-3	Chloroform	ND	250	229	92	250	222	89	3	70-130/30
74-87-3	Chloromethane	ND	250	350	140* a	250	285	114	20	70-130/30
95-49-8	o-Chlorotoluene	ND	250	262	105	250	230	92	13	70-130/30
106-43-4	p-Chlorotoluene	ND	250	271	108	250	244	98	10	70-130/30
124-48-1	Dibromochloromethane	ND	250	276	110	250	270	108	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	266	106	250	253	101	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	259	104	250	255	102	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	246	98	250	235	94	5	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	351	140* a	250	251	100	33* c	70-130/30
75-34-3	1,1-Dichloroethane	ND	250	230	92	250	241	96	5	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	246	98	250	188	75	27	70-130/30
75-35-4	1,1-Dichloroethene	ND	250	231	92	250	269	108	15	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	250	240	96	250	262	105	9	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	225	90	250	259	104	14	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	237	95	250	251	100	6	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	241	96	250	259	104	7	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	140	56* a	250	124	50* a	12	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	240	96	250	212	85	12	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12896-9MS	N66507.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9MSD	N66508.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9	N66505.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Compound	MC12896-9 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	250	241	96	250	224	90	7	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	250	228	91	250	205	82	11	70-130/30
123-91-1	1,4-Dioxane	ND	1250	1400	112	1250	1420	114	1	70-130/30
97-63-2	Ethyl methacrylate	ND	250	265	106	250	268	107	1	72-139/30
100-41-4	Ethylbenzene	ND	250	239	96	250	227	91	5	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	267	107	250	210	84	24	70-130/30
591-78-6	2-Hexanone	ND	250	235	94	250	288	115	20	70-130/30
98-82-8	Isopropylbenzene	ND	250	263	105	250	235	94	11	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	262	105	250	242	97	8	70-130/30
1634-04-4	Methyl Tert Butyl Ether	2.1	250	247	98	250	244	97	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	249	100	250	261	104	5	70-130/30
74-95-3	Methylene bromide	ND	250	263	105	250	247	99	6	70-130/30
75-09-2	Methylene chloride	ND	250	214	86	250	256	102	18	70-130/30
103-65-1	n-Propylbenzene	ND	250	277	111	250	246	98	12	70-130/30
100-42-5	Styrene	ND	250	254	102	250	265	106	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	255	102	250	242	97	5	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	258	103	250	259	104	0	70-130/30
127-18-4	Tetrachloroethene	ND	250	239	96	250	242	97	1	70-130/30
108-88-3	Toluene	ND	250	247	99	250	246	98	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	288	115	250	227	91	24	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	289	116	250	214	86	30	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	232	93	250	195	78	17	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	231	92	250	243	97	5	70-130/30
79-01-6	Trichloroethene	ND	250	238	95	250	219	88	8	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	197	79	250	166	66* a	17	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	240	96	250	246	98	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	258	103	250	224	90	14	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	243	97	250	210	84	15	70-130/30
108-05-4	Vinyl Acetate	ND	250	251	100	250	325	130	26	70-130/30
75-01-4	Vinyl chloride	2.8	250	282	112	250	216	85	27	70-130/30
	m,p-Xylene	ND	500	497	99	500	507	101	2	70-130/30
95-47-6	o-Xylene	ND	250	265	106	250	276	110	4	70-130/30
1330-20-7	Xylene (total)	ND	750	763	102	750	784	105	3	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12896-9MS	N66507.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9MSD	N66508.D	5	08/09/12	JP	n/a	n/a	MSN2500
MC12896-9	N66505.D	1	08/09/12	JP	n/a	n/a	MSN2500

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12669-2, MC12669-3, MC12669-5, MC12669-6

CAS No.	Surrogate Recoveries	MS	MSD	MC12896-9	Limits
1868-53-7	Dibromofluoromethane	90%	92%	93%	70-130%
2037-26-5	Toluene-D8	100%	96%	98%	70-130%
460-00-4	4-Bromofluorobenzene	97%	89%	104%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

# Volatile Internal Standard Area Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2498-CC2468	Injection Date:	08/07/12
Lab File ID:	N66431.D	Injection Time:	15:13
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	235905	9.02	367982	9.89	190598	13.15	176363	15.70	92781	6.56
Upper Limit <sup>a</sup>	471810	9.52	735964	10.39	381196	13.65	352726	16.20	185562	7.06
Lower Limit <sup>b</sup>	117953	8.52	183991	9.39	95299	12.65	88182	15.20	46391	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2498-BS	238480	9.01	372804	9.89	192855	13.15	180576	15.70	94869	6.56
MSN2497-BS1	238480	9.01	372804	9.89	192855	13.15	180576	15.70	94869	6.56
MSN2498-BSD	225819	9.02	349077	9.89	185355	13.14	169126	15.70	86824	6.56
MSN2497-BSD1	225819	9.02	349077	9.89	185355	13.14	169126	15.70	86824	6.56
MSN2497-MB1	224604	9.02	350532	9.89	176142	13.15	159332	15.70	84402	6.57
MSN2498-MB	224604	9.02	350532	9.89	176142	13.15	159332	15.70	84402	6.57
MC12669-7	207953	9.02	325722	9.89	159879	13.15	142741	15.70	83796	6.58
MC12669-4	202987	9.02	316302	9.89	157723	13.15	136649	15.71	75640	6.57
ZZZZZZ	206531	9.02	321248	9.89	163580	13.14	140878	15.71	75691	6.58
ZZZZZZ	197871	9.02	317080	9.89	162668	13.15	136733	15.70	80124	6.57
ZZZZZZ	182246	9.02	285435	9.89	149661	13.15	124765	15.70	66776	6.56
MC12783-7	192105	9.02	309576	9.89	156941	13.15	132684	15.70	67727	6.57
ZZZZZZ	185842	9.02	298327	9.89	156116	13.15	142042	15.70	76212	6.56
ZZZZZZ	193379	9.02	298833	9.89	154317	13.15	133036	15.70	80254	6.57
ZZZZZZ	186940	9.02	293456	9.89	156018	13.15	125794	15.70	79773	6.56
MC12669-1MS	166269	9.02	269452	9.89	150433	13.15	135877	15.70	73043	6.56
MC12669-1MSD	176450	9.01	288393	9.89	159746	13.15	143718	15.71	80429	6.56

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.5.1  
6

# Volatile Internal Standard Area Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2499-CC2468	Injection Date:	08/08/12
Lab File ID:	N66461.D	Injection Time:	05:22
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	174426	9.02	283552	9.89	157297	13.15	144492	15.70	78095	6.57
Upper Limit <sup>a</sup>	348852	9.52	567104	10.39	314594	13.65	288984	16.20	156190	7.07
Lower Limit <sup>b</sup>	87213	8.52	141776	9.39	78649	12.65	72246	15.20	39048	6.07

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2498-BS1	182025	9.02	291980	9.89	161771	13.14	149705	15.70	84042	6.56
MSN2499-BS	182025	9.02	291980	9.89	161771	13.14	149705	15.70	84042	6.56
MSN2499-MB	161218	9.02	261412	9.89	137812	13.15	115591	15.70	73632	6.57
MSN2498-MB1	161218	9.02	261412	9.89	137812	13.15	115591	15.70	73632	6.57
ZZZZZZ	152529	9.02	251592	9.89	133919	13.15	105458	15.70	97489	6.57
ZZZZZZ	159135	9.02	249430	9.89	137748	13.15	110003	15.70	65977	6.57
ZZZZZZ	143334	9.02	235554	9.89	128204	13.15	125400	15.70	56841	6.58
ZZZZZZ	148977	9.02	246587	9.89	128819	13.15	107181	15.71	60961	6.57
ZZZZZZ	148090	9.02	244178	9.89	127726	13.15	107797	15.71	57831	6.57
ZZZZZZ	146425	9.02	237194	9.89	129846	13.14	102058	15.70	71241	6.56
MC12669-1	136995	9.02	224428	9.89	120582	13.15	96490	15.70	57620	6.58
ZZZZZZ	142706	9.02	233082	9.89	125559	13.15	101427	15.70	65079	6.57
ZZZZZZ	142584	9.02	227943	9.89	127856	13.15	98393	15.70	47940	6.57
ZZZZZZ	133372	9.02	217798	9.89	120747	13.15	91009	15.71	60979	6.56
MC12735-5	136324	9.02	220522	9.89	123329	13.15	95497	15.70	62972	6.57
ZZZZZZ	132684	9.02	220422	9.89	116918	13.15	91958	15.70	47680	6.58
ZZZZZZ	133810	9.02	214696	9.89	119668	13.15	103024	15.70	57307	6.57
ZZZZZZ	132270	9.02	216918	9.89	118427	13.15	103360	15.70	56030	6.57
ZZZZZZ	135097	9.02	213873	9.89	120484	13.15	109029	15.70	57979	6.57
ZZZZZZ	141453	9.02	235547	9.89	125764	13.15	103762	15.70	60735	6.57
MC12735-5MS	147123	9.02	243135	9.89	138297	13.14	136934	15.70	64348	6.56
MC12735-5MSD	159556	9.02	257949	9.89	148261	13.15	137669	15.70	77102	6.56

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.5.2  
6

# Volatile Internal Standard Area Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2500-CC2468	Injection Date:	08/09/12
Lab File ID:	N66483.D	Injection Time:	09:24
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
	AREA		AREA		AREA		AREA		AREA	
Check Std	211095	9.01	359065	9.88	175965	13.14	170174	15.70	82384	6.56
Upper Limit <sup>a</sup>	422190	9.51	718130	10.38	351930	13.64	340348	16.20	164768	7.06
Lower Limit <sup>b</sup>	105548	8.51	179533	9.38	87983	12.64	85087	15.20	41192	6.06

Lab	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
Sample ID	AREA		AREA		AREA		AREA		AREA	
MSN2500-BS	183577	9.02	291556	9.89	153256	13.14	140108	15.70	83002	6.56
MSN2500-BSD	196329	9.02	311593	9.89	174028	13.15	153429	15.70	85641	6.56
MSN2500-MB	181107	9.02	282734	9.89	147564	13.15	118085	15.70	84196	6.58
ZZZZZZ	169351	9.02	271978	9.89	142095	13.15	117057	15.70	72460	6.57
ZZZZZZ	164672	9.02	265515	9.89	142121	13.15	120572	15.71	69375	6.57
ZZZZZZ	164024	9.02	268685	9.89	151728	13.14	133362	15.70	70709	6.57
ZZZZZZ	178382	9.02	282660	9.89	146418	13.15	127699	15.70	67902	6.58
ZZZZZZ	165923	9.02	263075	9.89	142369	13.15	124927	15.70	71458	6.57
ZZZZZZ	147309	9.02	240254	9.89	129294	13.15	107443	15.70	83942	6.57
MC12669-2	150977	9.02	244397	9.89	137319	13.15	154518	15.70	65258	6.57
MC12669-3	149482	9.02	243027	9.89	130066	13.15	103900	15.71	77857	6.57
MC12669-5	148776	9.02	244521	9.89	129788	13.15	106130	15.70	59338	6.57
MC12669-6	144975	9.02	246722	9.89	127870	13.15	116325	15.70	69022	6.57
ZZZZZZ	139943	9.02	226798	9.89	125583	13.15	115889	15.70	58795	6.57
ZZZZZZ	138503	9.02	228463	9.89	123025	13.15	103801	15.70	59331	6.57
ZZZZZZ	133955	9.02	220158	9.89	124604	13.15	93893	15.70	53955	6.58
ZZZZZZ	130909	9.02	212318	9.89	120349	13.15	122101	15.70	61532	6.57
ZZZZZZ	143345	9.02	233922	9.89	132759	13.15	142701	15.71	62718	6.57
ZZZZZZ	163965	9.02	264297	9.89	138031	13.14	123669	15.70	64068	6.58
ZZZZZZ	154079	9.02	272434	9.89	141791	13.15	128992	15.70	73576	6.57
MC12896-9	172441	9.02	271011	9.89	146168	13.15	111292	15.70	67214	6.57
ZZZZZZ	165642	9.02	269074	9.89	146554	13.15	132734	15.70	76644	6.57
MC12896-9MS	188864	9.02	289872	9.89	159946	13.15	144818	15.70	67950	6.56
MC12896-9MSD	254290	9.02	433914	9.89	207644	13.15	203148	15.70	108755	6.56

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.5.3

6

# Volatile Surrogate Recovery Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12669-1	N66471.D	104	98	103
MC12669-2	N66494.D	99	97	99
MC12669-3	N66495.D	100	98	107
MC12669-4	N66437.D	86	100	98
MC12669-5	N66496.D	99	99	105
MC12669-6	N66497.D	97	95	94
MC12669-7	N66436.D	87	97	97
MC12669-1MS	N66455.D	97	99	98
MC12669-1MSD	N66456.D	96	101	100
MC12896-9MS	N66507.D	90	100	97
MC12896-9MSD	N66508.D	92	96	89
MSN2498-BS	N66432.D	86	100	93
MSN2498-BS1	N66462.D	96	101	95
MSN2498-BSD	N66433.D	85	98	93
MSN2498-MB	N66435.D	85	98	94
MSN2498-MB1	N66464.D	100	99	99
MSN2500-BS	N66484.D	94	99	99
MSN2500-BSD	N66485.D	93	98	97
MSN2500-MB	N66487.D	92	98	106

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.6.1  
6

## GC/MS Semi-volatiles

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries



# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-MB	F56440.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.59	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-MB	F56440.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples: Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	44% 15-110%
4165-62-2	Phenol-d5	31% 15-110%
118-79-6	2,4,6-Tribromophenol	70% 15-110%
4165-60-0	Nitrobenzene-d5	76% 30-130%
321-60-8	2-Fluorobiphenyl	68% 30-130%
1718-51-0	Terphenyl-d14	89% 30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29852-MB	W3457.D	1	08/01/12	KR	07/30/12	OP29852	MSW160

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	114%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-BS	F56441.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	31.4	31	30-130
95-57-8	2-Chlorophenol	100	70.5	71	30-130
59-50-7	4-Chloro-3-methyl phenol	100	73.7	74	30-130
120-83-2	2,4-Dichlorophenol	100	78.0	78	30-130
105-67-9	2,4-Dimethylphenol	100	70.0	70	30-130
51-28-5	2,4-Dinitrophenol	100	72.1	72	30-130
534-52-1	4,6-Dinitro-o-cresol	100	92.2	92	30-130
95-48-7	2-Methylphenol	100	63.8	64	30-130
	3&4-Methylphenol	200	57.7	29* a	30-130
88-75-5	2-Nitrophenol	100	79.6	80	30-130
100-02-7	4-Nitrophenol	100	44.7	45	30-130
87-86-5	Pentachlorophenol	100	81.0	81	30-130
108-95-2	Phenol	100	38.0	38	30-130
95-95-4	2,4,5-Trichlorophenol	100	83.1	83	30-130
88-06-2	2,4,6-Trichlorophenol	100	82.5	83	30-130
62-53-3	Aniline	50	19.4	39* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.3	85	40-140
85-68-7	Butyl benzyl phthalate	50	42.2	84	40-140
100-51-6	Benzyl Alcohol	50	35.3	71	40-140
91-58-7	2-Chloronaphthalene	50	49.2	98	40-140
106-47-8	4-Chloroaniline	50	31.6	63	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	42.5	85	40-140
111-44-4	bis(2-Chloroethyl)ether	50	40.6	81	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	44.7	89	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	39.5	79	40-140
122-66-7	1,2-Diphenylhydrazine	50	42.4	85	40-140
121-14-2	2,4-Dinitrotoluene	50	42.8	86	40-140
606-20-2	2,6-Dinitrotoluene	50	42.5	85	40-140
91-94-1	3,3'-Dichlorobenzidine	50	31.6	63	40-140
132-64-9	Dibenzofuran	50	38.6	77	40-140
84-74-2	Di-n-butyl phthalate	50	43.2	86	40-140
117-84-0	Di-n-octyl phthalate	50	37.8	76	40-140
84-66-2	Diethyl phthalate	50	40.5	81	40-140
131-11-3	Dimethyl phthalate	50	41.4	83	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	40.8	82	40-140
118-74-1	Hexachlorobenzene	50	41.6	83	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-BS	F56441.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	23.1	46	40-140
67-72-1	Hexachloroethane	50	25.5	51	40-140
78-59-1	Isophorone	50	39.7	79	40-140
88-74-4	2-Nitroaniline	50	42.7	85	40-140
99-09-2	3-Nitroaniline	50	38.7	77	40-140
100-01-6	4-Nitroaniline	50	39.7	79	40-140
98-95-3	Nitrobenzene	50	39.9	80	40-140
62-75-9	n-Nitrosodimethylamine	50	26.4	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	41.0	82	40-140
86-30-6	N-Nitrosodiphenylamine	50	99.0	198* b	40-140
110-86-1	Pyridine	50	24.5	49	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	36%	15-110%
118-79-6	2,4,6-Tribromophenol	81%	15-110%
4165-60-0	Nitrobenzene-d5	78%	30-130%
321-60-8	2-Fluorobiphenyl	72%	30-130%
1718-51-0	Terphenyl-d14	92%	30-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29852-BS	W3458.D	1	08/01/12	KR	07/30/12	OP29852	MSW160

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	37.7	75	40-140
208-96-8	Acenaphthylene	50	32.2	64	40-140
120-12-7	Anthracene	50	44.5	89	40-140
56-55-3	Benzo(a)anthracene	50	49.0	98	40-140
50-32-8	Benzo(a)pyrene	50	40.1	80	40-140
205-99-2	Benzo(b)fluoranthene	50	56.2	112	40-140
191-24-2	Benzo(g,h,i)perylene	50	54.2	108	40-140
207-08-9	Benzo(k)fluoranthene	50	50.1	100	40-140
218-01-9	Chrysene	50	41.0	82	40-140
53-70-3	Dibenzo(a,h)anthracene	50	55.8	112	40-140
206-44-0	Fluoranthene	50	48.3	97	40-140
86-73-7	Fluorene	50	44.1	88	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	55.8	112	40-140
90-12-0	1-Methylnaphthalene	50	28.8	58	40-140
91-57-6	2-Methylnaphthalene	50	35.9	72	40-140
91-20-3	Naphthalene	50	37.1	74	40-140
85-01-8	Phenanthrene	50	43.5	87	40-140
129-00-0	Pyrene	50	46.9	94	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	83%	30-130%
321-60-8	2-Fluorobiphenyl	71%	30-130%
1718-51-0	Terphenyl-d14	120%	30-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-MS	F56442.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
OP29851-MSD	F56443.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
MC12669-1	F56444.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples: Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	MC12669-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
65-85-0	Benzoic Acid	ND		101	38.3	38	105	39.7	38	4	30-130/20
95-57-8	2-Chlorophenol	ND		101	71.8	71	105	74.9	71	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		101	74.5	74	105	79.6	76	7	30-130/20
120-83-2	2,4-Dichlorophenol	ND		101	77.0	76	105	78.3	74	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND		101	71.7	71	105	70.8	67	1	30-130/20
51-28-5	2,4-Dinitrophenol	ND		101	78.2	77	105	79.7	76	2	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		101	87.4	87	105	92.5	88	6	30-130/20
95-48-7	2-Methylphenol	ND		101	64.2	64	105	73.8	70	14	30-130/20
	3&4-Methylphenol	ND		202	59.5	29* a	211	72.7	35	20	30-130/20
88-75-5	2-Nitrophenol	ND		101	79.4	79	105	82.9	79	4	30-130/20
100-02-7	4-Nitrophenol	ND		101	38.2	38	105	40.6	39	6	30-130/20
87-86-5	Pentachlorophenol	ND		101	82.0	81	105	85.3	81	4	30-130/20
108-95-2	Phenol	ND		101	36.3	36	105	48.2	46	28* b	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		101	79.4	79	105	80.6	77	1	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		101	82.3	81	105	83.2	79	1	30-130/20
62-53-3	Aniline	ND		50.5	18.5	37* a	52.6	17.5	33* a	6	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50.5	41.4	82	52.6	42.1	80	2	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50.5	43.4	86	52.6	43.6	83	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50.5	34.9	69	52.6	36.1	69	3	40-140/20
91-58-7	2-Chloronaphthalene	ND		50.5	42.0	83	52.6	42.3	80	1	40-140/20
106-47-8	4-Chloroaniline	ND		50.5	29.0	57	52.6	27.0	51	7	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50.5	43.0	85	52.6	43.7	83	2	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50.5	42.4	84	52.6	42.9	82	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50.5	47.7	94	52.6	47.9	91	0	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50.5	41.1	81	52.6	41.9	80	2	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50.5	40.7	81	52.6	41.8	79	3	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50.5	43.9	87	52.6	43.8	83	0	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50.5	41.9	83	52.6	42.3	80	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50.5	22.0	44	52.6	16.6	32* a	28* b	40-140/20
132-64-9	Dibenzofuran	ND		50.5	39.1	77	52.6	40.0	76	2	40-140/20
84-74-2	Di-n-butyl phthalate	0.66	J	50.5	40.4	79	52.6	41.6	78	3	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50.5	32.8	65	52.6	34.5	66	5	40-140/20
84-66-2	Diethyl phthalate	ND		50.5	40.2	80	52.6	40.3	77	0	40-140/20
131-11-3	Dimethyl phthalate	ND		50.5	42.2	84	52.6	42.3	80	0	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	0.67	J	50.5	39.5	77	52.6	40.3	75	2	40-140/20
118-74-1	Hexachlorobenzene	ND		50.5	39.3	78	52.6	40.2	76	2	40-140/20

\* = Outside of Control Limits.

7.3.1  
7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29851-MS	F56442.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
OP29851-MSD	F56443.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686
MC12669-1	F56444.D	1	08/01/12	KR	07/30/12	OP29851	MSF2686

The QC reported here applies to the following samples: Method: SW846 8270C

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	MC12669-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50.5	24.4	48	52.6	25.5	48	4	40-140/20
67-72-1	Hexachloroethane	ND	50.5	30.0	59	52.6	30.5	58	2	40-140/20
78-59-1	Isophorone	ND	50.5	41.4	82	52.6	40.8	78	1	40-140/20
88-74-4	2-Nitroaniline	ND	50.5	43.2	86	52.6	43.6	83	1	40-140/20
99-09-2	3-Nitroaniline	ND	50.5	32.1	64	52.6	31.3	59	3	40-140/20
100-01-6	4-Nitroaniline	ND	50.5	38.7	77	52.6	38.8	74	0	40-140/20
98-95-3	Nitrobenzene	ND	50.5	41.8	83	52.6	41.4	79	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50.5	26.4	52	52.6	26.8	51	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50.5	42.8	85	52.6	44.0	84	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50.5	41.6	82	52.6	42.6	81	2	40-140/20
110-86-1	Pyridine	ND	50.5	24.0	48	52.6	24.0	46	0	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12669-1	Limits
367-12-4	2-Fluorophenol	49%	51%	44%	15-110%
4165-62-2	Phenol-d5	34%	43%	32%	15-110%
118-79-6	2,4,6-Tribromophenol	77%	75%	72%	15-110%
4165-60-0	Nitrobenzene-d5	80%	78%	74%	30-130%
321-60-8	2-Fluorobiphenyl	74%	72%	69%	30-130%
1718-51-0	Terphenyl-d14	70%	74%	70%	30-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.3.1



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29852-MS	W3459.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
OP29852-MSD	W3460.D	1	08/01/12	KR	07/30/12	OP29852	MSW160
MC12669-1	W3461.D	1	08/01/12	KR	07/30/12	OP29852	MSW160

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6

CAS No.	Compound	MC12669-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	40.3	81	50.5	39.4	78	2	40-140/20
208-96-8	Acenaphthylene	ND	50	32.5	65	50.5	31.4	62	3	40-140/20
120-12-7	Anthracene	ND	50	47.3	95	50.5	46.0	91	3	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	46.1	92	50.5	46.0	91	0	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	34.8	70	50.5	34.0	67	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	45.3	91	50.5	44.2	88	2	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	47.0	94	50.5	46.0	91	2	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	43.4	87	50.5	42.5	84	2	40-140/20
218-01-9	Chrysene	ND	50	39.1	78	50.5	39.6	78	1	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	47.9	96	50.5	46.9	93	2	40-140/20
206-44-0	Fluoranthene	ND	50	49.3	99	50.5	48.6	96	1	40-140/20
86-73-7	Fluorene	ND	50	44.9	90	50.5	43.7	87	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	47.6	95	50.5	46.6	92	2	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	37.7	75	50.5	35.9	71	5	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	39.2	78	50.5	38.6	76	2	40-140/20
91-20-3	Naphthalene	ND	50	39.2	78	50.5	38.5	76	2	40-140/20
85-01-8	Phenanthrene	0.025	J	50	91	50.5	44.8	89	2	40-140/20
129-00-0	Pyrene	ND	50	47.6	95	50.5	47.0	93	1	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12669-1	Limits
4165-60-0	Nitrobenzene-d5	83%	81%	78%	30-130%
321-60-8	2-Fluorobiphenyl	73%	72%	66%	30-130%
1718-51-0	Terphenyl-d14	88%	94%	91%	30-130%

\* = Outside of Control Limits.

7.3.2  
 7

# Semivolatile Internal Standard Area Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2686-CC2682	Injection Date:	08/01/12
Lab File ID:	F56432.D	Injection Time:	16:55
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	396038	4.03	1470993	5.02	937880	6.45	1685742	7.81	1560012	10.58	1500656	12.04
Upper Limit <sup>a</sup>	792076	4.53	2941986	5.52	1875760	6.95	3371484	8.31	3120024	11.08	3001312	12.54
Lower Limit <sup>b</sup>	198019	3.53	735497	4.52	468940	5.95	842871	7.31	780006	10.08	750328	11.54

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29875-MB	366584	4.03	1328455	5.02	838298	6.45	1508235	7.81	1414817	10.58	1552688	12.04
OP29875-BS	384465	4.04	1424642	5.02	886744	6.45	1616488	7.81	1456310	10.58	1607347	12.04
OP29875-MS	417280	4.03	1550526	5.02	973677	6.45	1790464	7.81	1637363	10.58	1776408	12.04
OP29875-MSD	432643	4.03	1582469	5.02	1001296	6.45	1828931	7.81	1711265	10.58	1834823	12.05
MC12689-2	406441	4.03	1517127	5.02	937258	6.45	1702252	7.81	1582096	10.58	1728622	12.04
ZZZZZZ	419477	4.03	1532290	5.02	968602	6.45	1754812	7.81	1580591	10.58	1763150	12.04
OP29851-MB	439424	4.03	1621747	5.02	1027544	6.45	1873670	7.81	1759576	10.58	2041926	12.05
OP29851-BS	453385	4.04	1664893	5.02	1007605	6.45	1751632	7.81	1705166	10.59	1844545	12.05
OP29851-MS	457874	4.03	1679016	5.02	1037675	6.45	1887300	7.81	1672038	10.58	1963060	12.04
OP29851-MSD	453934	4.03	1697681	5.02	1040756	6.45	1869806	7.81	1680157	10.58	1975166	12.05
MC12669-1	440158	4.04	1611538	5.02	1014645	6.45	1835041	7.81	1736269	10.58	2084361	12.04
ZZZZZZ	830684*	4.03	3024535*5.02		1905034*6.45		3451768*7.81		3153837*10.59		3751440*12.05	
MC12669-2	443899	4.03	1693513	5.02	1044245	6.45	1914001	7.81	1807603	10.58	2282492	12.04
MC12669-3	436663	4.03	1633315	5.02	1017678	6.45	1897914	7.81	1739571	10.58	2143780	12.05
MC12669-4	434995	4.03	1642948	5.02	1008613	6.45	1879878	7.81	1733376	10.58	2136174	12.04
MC12669-5	435975	4.03	1634942	5.02	1036238	6.45	1903095	7.81	1820744	10.58	2197981	12.05
MC12669-6	447098	4.03	1649842	5.02	1030065	6.45	1890968	7.81	1773828	10.58	2211971	12.05
ZZZZZZ	428234	4.03	1615834	5.02	1022585	6.45	1852753	7.81	1740856	10.58	2122372	12.05
ZZZZZZ	437729	4.03	1667269	5.02	1044184	6.45	1878861	7.81	1781925	10.58	2159653	12.05
ZZZZZZ	408450	4.03	1529547	5.02	953070	6.45	1746846	7.81	1612473	10.58	2108863	12.04
ZZZZZZ	392295	4.03	1450605	5.02	895322	6.45	1626976	7.81	1532063	10.58	1955240	12.05
ZZZZZZ	471737	4.03	1769301	5.02	1115704	6.45	2044141	7.81	1874798	10.58	2074033	12.05
ZZZZZZ	447126	4.03	1667434	5.02	1052090	6.45	1901179	7.81	1791960	10.58	2020432	12.05
ZZZZZZ	416191	4.04	1510160	5.02	952036	6.45	1683659	7.81	1552712	10.58	1741656	12.04
ZZZZZZ	417823	4.03	1553726	5.02	972101	6.45	1802537	7.81	1679102	10.58	1851474	12.05
ZZZZZZ	419313	4.03	1599268	5.02	1010619	6.45	1857096	7.81	1719775	10.58	1946094	12.05
ZZZZZZ	413202	4.03	1538762	5.02	962396	6.45	1768041	7.81	1654173	10.58	1893071	12.05

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

7.4.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12669  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2686-CC2682	Injection Date:	08/01/12
Lab File ID:	F56432.D	Injection Time:	16:55
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1

7

# Semivolatile Internal Standard Area Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW159-CC138	Injection Date:	08/01/12
Lab File ID:	W3455.D	Injection Time:	07:44
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	374895	3.85	1438243	4.84	889626	6.26	1697146	7.60	2047395	10.50	1836559	12.07
Upper Limit <sup>a</sup>	749790	4.35	2876486	5.34	1779252	6.76	3394292	8.10	4094790	11.00	3673118	12.57
Lower Limit <sup>b</sup>	187448	3.35	719122	4.34	444813	5.76	848573	7.10	1023698	10.00	918280	11.57

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29852-MB	951369 <sup>c</sup>	3.85	3639166 <sup>c</sup>	4.83	2068818 <sup>c</sup>	6.26	3442895 <sup>c</sup>	7.60	3487828 <sup>c</sup>	10.37	5172874 <sup>c</sup>	11.83
OP29852-BS	999695 <sup>c</sup>	3.85	3728157 <sup>c</sup>	4.84	2125311 <sup>c</sup>	6.26	3703972 <sup>c</sup>	7.60	3586644 <sup>c</sup>	10.38	4755558 <sup>c</sup>	11.83
OP29852-MS	1030049 <sup>c</sup>	3.85	3883111 <sup>c</sup>	4.83	2191252 <sup>c</sup>	6.26	3594302 <sup>c</sup>	7.60	3584983 <sup>c</sup>	10.38	5057958 <sup>c</sup>	11.83
OP29852-MSD	1025984 <sup>c</sup>	3.85	3839198 <sup>c</sup>	4.83	2171069 <sup>c</sup>	6.26	3544760 <sup>c</sup>	7.60	3524651 <sup>c</sup>	10.38	5132476 <sup>c</sup>	11.83
MC12669-1	873554 <sup>c</sup>	3.85	3358062 <sup>c</sup>	4.83	1932021 <sup>c</sup>	6.26	3259325 <sup>c</sup>	7.60	3350262 <sup>c</sup>	10.37	5117040 <sup>c</sup>	11.83
ZZZZZZ	912128 <sup>c</sup>	3.85	3463380 <sup>c</sup>	4.83	1980804 <sup>c</sup>	6.26	3320236 <sup>c</sup>	7.59	3426313 <sup>c</sup>	10.37	5159316 <sup>c</sup>	11.83
MC12669-2	900723 <sup>c</sup>	3.85	3430794 <sup>c</sup>	4.83	1963517 <sup>c</sup>	6.26	3279552 <sup>c</sup>	7.60	3366934 <sup>c</sup>	10.37	5415724 <sup>c</sup>	11.83
OP29853-MB	305893	3.85	1152255	4.83	694725	6.26	1256323	7.59	1488198	10.49	1546998	12.06
OP29853-BS	318312	3.85	1174779	4.83	712241	6.26	1368519	7.60	1538658	10.49	1401554	12.07
ZZZZZZ	682164	3.85	2490826	4.84	1593486	6.26	2887769	7.60	3611302	10.50	3740884 <sup>*</sup>	12.07
MC12669-3	848972 <sup>c</sup>	3.85	3267315 <sup>c</sup>	4.83	1865953 <sup>c</sup>	6.26	3140745 <sup>c</sup>	7.59	3253037 <sup>c</sup>	10.37	5154364 <sup>c</sup>	11.83
MC12669-4	912101 <sup>c</sup>	3.85	3466787 <sup>c</sup>	4.83	1976349 <sup>c</sup>	6.26	3323898 <sup>c</sup>	7.59	3377925 <sup>c</sup>	10.37	5180070 <sup>c</sup>	11.83
MC12669-5	884513 <sup>c</sup>	3.85	3414871 <sup>c</sup>	4.83	1956725 <sup>c</sup>	6.26	3240834 <sup>c</sup>	7.59	3390632 <sup>c</sup>	10.37	5231854 <sup>c</sup>	11.83
MC12669-6	941346 <sup>c</sup>	3.85	3554753 <sup>c</sup>	4.83	1997934 <sup>c</sup>	6.26	3316822 <sup>c</sup>	7.59	3399571 <sup>c</sup>	10.37	5493769 <sup>c</sup>	11.83
ZZZZZZ	896448 <sup>c</sup>	3.85	2787011 <sup>c</sup>	4.84	1234711 <sup>c</sup>	6.29	2946132 <sup>c</sup>	7.64	3293771 <sup>c</sup>	10.38	4335380 <sup>c</sup>	11.83
ZZZZZZ	765517 <sup>*</sup>	3.85	2960072 <sup>*</sup>	4.83	1699421	6.26	2840253	7.59	2906774	10.37	4096803 <sup>*</sup>	11.83

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Internal standard spiked at SIM concentration.

7.4.2  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12669-1	F56444.D	44	32	72	74	69	70
MC12669-2	F56447.D	45	31	70	73	68	85
MC12669-3	F56448.D	47	34	70	75	69	89
MC12669-4	F56449.D	46	33	72	75	72	90
MC12669-5	F56450.D	47	32	72	73	69	85
MC12669-6	F56451.D	49	35	70	77	72	84
OP29851-BS	F56441.D	51	36	81	78	72	92
OP29851-MB	F56440.D	44	31	70	76	68	89
OP29851-MS	F56442.D	49	34	77	80	74	70
OP29851-MSD	F56443.D	51	43	75	78	72	74

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.5.1

7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12669-1	W3461.D	78	66	91
MC12669-2	W3463.D	79	67	112
MC12669-3	W3473.D	79	67	112
MC12669-4	W3474.D	81	70	116
MC12669-5	W3475.D	80	68	114
MC12669-6	W3476.D	80	70	109
OP29852-BS	W3458.D	83	71	120
OP29852-MB	W3457.D	79	68	114
OP29852-MS	W3459.D	83	73	88
OP29852-MSD	W3460.D	81	72	94

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.5.2  
7

## GC Volatiles

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## QC Data Summaries



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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

Job Number: MC12669  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29882-MB	BB43070.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630

The QC reported here applies to the following samples: Method: SW846 8011

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6, MC12669-8

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	95%	36-173%
460-00-4	Bromofluorobenzene (S)	99%	36-173%

8.1.1  
8



# Blank Spike Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29882-BS	BB43071.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630

The QC reported here applies to the following samples: Method: SW846 8011

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6, MC12669-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.047	66	60-140
106-93-4	1,2-Dibromoethane	0.071	0.052	73	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	73%	36-173%
460-00-4	Bromofluorobenzene (S)	75%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29882-MS	BB43072.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
OP29882-MSD	BB43073.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630
MC12669-1	BB43074.D	1	08/04/12	CZ	08/01/12	OP29882	GBB2630

The QC reported here applies to the following samples: Method: SW846 8011

MC12669-1, MC12669-2, MC12669-3, MC12669-4, MC12669-5, MC12669-6, MC12669-8

CAS No.	Compound	MC12669-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0702	0.078	111	0.0681	0.076	112	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.0702	0.071	101	0.0681	0.073	107	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12669-1	Limits
460-00-4	Bromofluorobenzene (S)	127%	123%	98%	36-173%
460-00-4	Bromofluorobenzene (S)	127%	118%	97%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12669

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12669-1	BB43074.D	98	97
MC12669-2	BB43075.D	94	92
MC12669-3	BB43076.D	95	94
MC12669-4	BB43077.D	89	82
MC12669-5	BB43078.D	110	106
MC12669-6	BB43079.D	104	101
MC12669-8	BB43081.D	92	85
OP29882-BS	BB43071.D	73	75
OP29882-MB	BB43070.D	95	99
OP29882-MS	BB43072.D	127	127
OP29882-MSD	BB43073.D	123	118

Surrogate Compounds

Recovery Limits

S1 = Bromofluorobenzene (S) 36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBB2630-CC2630	Injection Date:	08/04/12
Lab File ID:	BB43069.D	Injection Time:	01:14
Instrument ID:	GCBB	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	3.80	3.91
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
OP29882-MB	BB43070.D	08/04/12	01:40	3.80	3.91
OP29882-BS	BB43071.D	08/04/12	02:06	3.80	3.91
OP29882-MS	BB43072.D	08/04/12	02:32	3.80	3.91
OP29882-MSD	BB43073.D	08/04/12	02:59	3.80	3.91
MC12669-1	BB43074.D	08/04/12	03:26	3.80	3.91
MC12669-2	BB43075.D	08/04/12	03:52	3.80	3.91
MC12669-3	BB43076.D	08/04/12	04:18	3.80	3.91
MC12669-4	BB43077.D	08/04/12	04:45	3.80	3.91
MC12669-5	BB43078.D	08/04/12	05:11	3.80	3.91
MC12669-6	BB43079.D	08/04/12	05:38	3.80	3.91

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12669  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBB2630-CC2630	Injection Date:	08/04/12
Lab File ID:	BB43080.D	Injection Time:	06:04
Instrument ID:	GCBB	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	3.80	3.90
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
MC12669-8	BB43081.D	08/04/12	06:31	3.80	3.92
ZZZZZZ	BB43082.D	08/04/12	06:57	3.80	3.91
ZZZZZZ	BB43083.D	08/04/12	07:24	3.80	3.90
ZZZZZZ	BB43084.D	08/04/12	07:50	3.80	3.91
ZZZZZZ	BB43085.D	08/04/12	08:16	3.80	3.90
ZZZZZZ	BB43086.D	08/04/12	08:42	3.80	3.90
ZZZZZZ	BB43087.D	08/04/12	09:09	3.80	3.90
ZZZZZZ	BB43088.D	08/04/12	09:35	3.80	3.91
ZZZZZZ	BB43089.D	08/04/12	10:02	3.80	3.91
ZZZZZZ	BB43090.D	08/04/12	10:28	3.80	3.91
GBB2630-ECC2630	BB43091.D	08/04/12	10:55	3.80	3.91

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8

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*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

### Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12784

Sampling Date: 08/01/12

#### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 93



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

*H. Madadian*  
H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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ACCUTEST

October 21, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12784

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION,  
TESTING AND CERTIFICATION COMPANY.

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## Sample Summary

Shell Oil

Job No: MC12784

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
MC12784-1	08/01/12	11:05	DMCW08/02/12	AQ	Ground Water	MW6A-ROX-080112
MC12784-2	08/01/12	13:45	DMCW08/02/12	AQ	Ground Water	MW6B-ROX-080112
MC12784-3	08/01/12	15:45	DMCW08/02/12	AQ	Ground Water	MW6C-ROX-080112
MC12784-4	08/01/12	16:05	DMCW08/02/12	AQ	Equipment Blank	MW6C-ROX-080112 EB
MC12784-5	08/01/12	00:00	DMCW08/02/12	AQ	Trip Blank Water	TB-080112-R
MC12784-6	08/01/12	00:00	DMCW08/02/12	AQ	Trip Blank Water	TB-080112-R

# SAMPLE DELIVERY GROUP CASE NARRATIVE



**Client:** She O

**Job No** MC 2784

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 10/21/2016 6:57:55 P

4 Sample(s), Trip Blank(s) and 0 Field Blank(s) were collected on 10/21/2016 and were received at SGS Accutest New England on 10/22/2016 properly preserved, at 4 Deg C and intact. These Samples received a job number of MC 2784. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Chlorohexane, Benzene, D benz(a,h)acridene, Indene and Quinoline were searched in the library search and reported on if detections were found.

Except as noted below, all method specified calibration and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSV436
-------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specification criteria.
- Sample(s) MC 2978-4MS, MC 2978-4MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Acrylonitrile, Acetone are outside control limits.
- Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Dichlorodifluoromethane, Acrylonitrile are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Probable cause due to matrix interference.
- MC 2978-4MS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC 2784-4 for Acetone: In the Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- MSV436-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSV438
-------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC 2784- MS, MC 2784- MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specification criteria.
- Blank Spike Recovery(s) for Acrylonitrile, Acetone are outside control limits.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether, Acrylonitrile are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether are outside control limits. Probable cause due to matrix interference.
- MC 2784- MS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC 2784-3 for Acetone: In the Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- MSV438-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC 2784-2 for Acetone: In the Calibration Verification outside of acceptance criteria. Sample result may be biased high.

### Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ **Batch ID:** OP299 5

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 27 2-7MS, MC 27 2-7MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification
- Blank Spike Recovery(s) for Aniline are out of control limits
- Matrix Spike Recovery(s) for Aniline, Pyridine are out of control limits Out of control limits due to possible matrix interference Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for Aniline are out of control limits Probable cause due to matrix interference

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP299 6

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 27 2-6MS, MC 27 2-6MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

### Volatiles by GC By Method SW846 8011

**Matrix:** AQ **Batch ID:** OP29955

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879-7MS, MC 2879-7MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

SGS Accutest New England certifies that all analyses were performed with the method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 2784)

## Summary of Hits

**Job Number:** MC12784  
**Account:** Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Collected:** 08/01/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
MC12784-1	MW6A-ROX-080112						
		Benzene	1.6	0.50	0.24	ug/l	SW846 8260B
		Methyl Tert Butyl Ether	1.9	1.0	0.41	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.49 J	5.0	0.36	ug/l	SW846 8270C
MC12784-2	MW6B-ROX-080112						
		Acetone <sup>a</sup>	3.2 J	5.0	3.0	ug/l	SW846 8260B
		Benzene	0.45 J	0.50	0.24	ug/l	SW846 8260B
		Methyl Tert Butyl Ether	12.2	1.0	0.41	ug/l	SW846 8260B
		Di-n-butyl phthalate	0.70 J	5.1	0.36	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.49 J	2.0	0.38	ug/l	SW846 8270C
MC12784-3	MW6C-ROX-080112						
		Acetone <sup>a</sup>	3.0 J	5.0	3.0	ug/l	SW846 8260B
		Benzene	0.61	0.50	0.24	ug/l	SW846 8260B
		Di-n-butyl phthalate	1.0 J	5.0	0.36	ug/l	SW846 8270C
MC12784-4	MW6C-ROX-080112 EB						
		Acetone <sup>a</sup>	7.8	5.0	3.0	ug/l	SW846 8260B
		Chloroform	0.51 J	1.0	0.50	ug/l	SW846 8260B
		Toluene	0.52 J	1.0	0.51	ug/l	SW846 8260B
		Naphthalene	0.040 J	0.10	0.037	ug/l	SW846 8270C BY SIM
		Phenanthrene	0.019 J	0.052	0.013	ug/l	SW846 8270C BY SIM

MC12784-5 TB-080112-R

No hits reported in this sample.

MC12784-6 TB-080112-R

No hits reported in this sample.

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

**Sample Results**

---

**Report of Analysis**

---

## Report of Analysis

Client Sample ID:	MW6A-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-1	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10529.D	1	08/15/12	AMY	n/a	n/a	MSV438
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	1.6	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6A-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-1	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.9	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6A-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-1		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

4.1  
4

**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

---

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW6A-ROX-080112 <b>Lab Sample ID:</b> MC12784-1 <b>Matrix:</b> AQ - Ground Water <b>Method:</b> SW846 8270C SW846 3510C <b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	<b>Date Sampled:</b> 08/01/12 <b>Date Received:</b> 08/02/12 <b>Percent Solids:</b> n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56596.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

### ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.49	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW6A-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-1		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	33%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	53%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6A-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-1	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3678.D	1	08/07/12	KR	08/03/12	OP29916	MSW169
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	66%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW6A-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-1	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15939.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.1 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	79%		36-173%
460-00-4	Bromofluorobenzene (S)	99%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW6B-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-2	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10530.D	1	08/15/12	AMY	n/a	n/a	MSV438
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	3.2	5.0	3.0	ug/l	J
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.45	0.50	0.24	ug/l	J
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6B-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-2	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	12.2	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6B-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-2		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6B-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-2	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56597.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.1	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	0.70	5.1	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW6B-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-2		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.1	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.49	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	74%		15-110%
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	64%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6B-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-2		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3679.D	1	08/07/12	KR	08/03/12	OP29916	MSW169
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	82%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> MW6B-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-2	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15940.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.3 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	88%		36-173%
460-00-4	Bromofluorobenzene (S)	95%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-3	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10531.D	1	08/15/12	AMY	n/a	n/a	MSV438
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	3.0	5.0	3.0	ug/l	J
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.61	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6C-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-3	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-3		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6C-ROX-080112	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-3	Date Received:	08/02/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56598.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	1.0	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-3		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	30%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	86%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.3  
4



## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-3	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3680.D	1	08/07/12	KR	08/03/12	OP29916	MSW169
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

### BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	109%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.3  
4

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-3	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15941.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.3 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	86%		36-173%
460-00-4	Bromofluorobenzene (S)	103%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW6C-ROX-080112 EB	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-4	Date Received:	08/02/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10479.D	1	08/14/12	AMY	n/a	n/a	MSV436
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	7.8	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	0.51	1.0	0.50	ug/l	J
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6C-ROX-080112 EB	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-4	Date Received:	08/02/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	0.52	1.0	0.51	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112 EB	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-4	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112 EB	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-4	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56599.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.2	ug/l	
95-48-7	2-Methylphenol	ND	10	0.63	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.97	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112 EB	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-4	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	5.2	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	2.1	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	5.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	74%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112 EB	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-4	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3681.D	1	08/07/12	KR	08/03/12	OP29916	MSW169
Run #2							

Run #	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.061	ug/l	
218-01-9	Chrysene	ND	0.10	0.076	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.048	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.054	ug/l	
91-20-3	Naphthalene	0.040	0.10	0.037	ug/l	J
85-01-8	Phenanthrene	0.019	0.052	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	118%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW6C-ROX-080112 EB	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-4	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15942.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.7 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		36-173%
460-00-4	Bromofluorobenzene (S)	100%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	TB-080112-R	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-5	Date Received:	08/02/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10478.D	1	08/14/12	AMY	n/a	n/a	MSV436
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080112-R	Date Sampled:	08/01/12
Lab Sample ID:	MC12784-5	Date Received:	08/02/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080112-R		<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-5		<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080112-R	<b>Date Sampled:</b> 08/01/12
<b>Lab Sample ID:</b> MC12784-6	<b>Date Received:</b> 08/02/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15943.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

Run #	Initial Volume	Final Volume
Run #1	35.3 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	91%		36-173%
460-00-4	Bromofluorobenzene (S)	105%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC12784      Client: URS      Immediate Client Services Action Required: No  
 Date / Time Received: 8/2/2012      Delivery Method: \_\_\_\_\_      Client Service Action Required at Login: No  
 Project: 900 SO CENTRAL AVE      No. Coolers: 1      Airbill #'s: \_\_\_\_\_

**Cooler Security**

	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Cooler Temperature**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	<u>Infrared gun</u>		
3. Cooler media:	<u>Ice (bag)</u>		

**Quality Control Preservation**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

**Sample Integrity - Documentation**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Sample Integrity - Condition**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

**Sample Integrity - Instructions**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments



## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12784

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

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Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12784-1 Collected: 01-AUG-12 11:05 By: DMCW Received: 02-AUG-12 By: MW6A-ROX-080112						
MC12784-1	SW846 8270C	06-AUG-12 17:40	KR	03-AUG-12 BJ		AB8270SL +
MC12784-1	SW846 8270C BY SIM	07-AUG-12 08:15	KR	03-AUG-12 BJ		B8270SIMP AH
MC12784-1	SW846 8011	10-AUG-12 09:03	AP	08-AUG-12 SC		V8011SL
MC12784-1	SW846 8260B	15-AUG-12 20:17	AMY			V8260SL +
MC12784-2 Collected: 01-AUG-12 13:45 By: DMCW Received: 02-AUG-12 By: MW6B-ROX-080112						
MC12784-2	SW846 8270C	06-AUG-12 18:03	KR	03-AUG-12 BJ		AB8270SL +
MC12784-2	SW846 8270C BY SIM	07-AUG-12 08:37	KR	03-AUG-12 BJ		B8270SIMP AH
MC12784-2	SW846 8011	10-AUG-12 09:27	AP	08-AUG-12 SC		V8011SL
MC12784-2	SW846 8260B	15-AUG-12 20:46	AMY			V8260SL +
MC12784-3 Collected: 01-AUG-12 15:45 By: DMCW Received: 02-AUG-12 By: MW6C-ROX-080112						
MC12784-3	SW846 8270C	06-AUG-12 18:25	KR	03-AUG-12 BJ		AB8270SL +
MC12784-3	SW846 8270C BY SIM	07-AUG-12 08:59	KR	03-AUG-12 BJ		B8270SIMP AH
MC12784-3	SW846 8011	10-AUG-12 09:52	AP	08-AUG-12 SC		V8011SL
MC12784-3	SW846 8260B	15-AUG-12 21:15	AMY			V8260SL +
MC12784-4 Collected: 01-AUG-12 16:05 By: DMCW Received: 02-AUG-12 By: MW6C-ROX-080112 EB						
MC12784-4	SW846 8270C	06-AUG-12 18:48	KR	03-AUG-12 BJ		AB8270SL +
MC12784-4	SW846 8270C BY SIM	07-AUG-12 09:21	KR	03-AUG-12 BJ		B8270SIMP AH
MC12784-4	SW846 8011	10-AUG-12 10:16	AP	08-AUG-12 SC		V8011SL
MC12784-4	SW846 8260B	14-AUG-12 19:26	AMY			V8260SL +
MC12784-5 Collected: 01-AUG-12 00:00 By: DMCW Received: 02-AUG-12 By: TB-080112-R						
MC12784-5	SW846 8260B	14-AUG-12 18:57	AMY			V8260SL +
MC12784-6 Collected: 01-AUG-12 00:00 By: DMCW Received: 02-AUG-12 By: TB-080112-R						

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12784

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12784-6	SW846 8011	10-AUG-12 10:40	AP	08-AUG-12	SC	V8011SL

5.2  
5

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12784  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/02/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12784-1.1	Walk In Ref #22	Nick Krasinski	08/03/12 14:10	Retrieve from Storage
MC12784-1.1	Nick Krasinski		08/03/12 21:11	Depleted
MC12784-1.3	VOC Ref #4	Amy Min Yang	08/15/12 17:39	Retrieve from Storage
MC12784-1.3	Amy Min Yang	GCMSV	08/15/12 17:39	Load on Instrument
MC12784-1.3	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-1.3	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-1.3	Scott Parsick		09/19/12 12:19	Disposed
MC12784-1.4	VOC Ref #4	Amy Min Yang	08/14/12 16:43	Retrieve from Storage
MC12784-1.4	Amy Min Yang	GCMSV	08/14/12 16:43	Load on Instrument
MC12784-1.4	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-1.4	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-1.4	Scott Parsick		09/19/12 12:19	Disposed
MC12784-1.5	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12784-1.5	Nick Krasinski		08/08/12 23:10	Depleted
MC12784-2.2	Walk In Ref #22	Nick Krasinski	08/03/12 14:10	Retrieve from Storage
MC12784-2.2	Nick Krasinski		08/03/12 21:11	Depleted
MC12784-2.3	VOC Ref #4	Amy Min Yang	08/14/12 16:43	Retrieve from Storage
MC12784-2.3	Amy Min Yang	GCMSV	08/14/12 16:43	Load on Instrument
MC12784-2.3	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-2.3	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-2.3	Scott Parsick		09/19/12 12:19	Disposed
MC12784-2.4	VOC Ref #4	Amy Min Yang	08/15/12 17:39	Retrieve from Storage
MC12784-2.4	Amy Min Yang	GCMSV	08/15/12 17:39	Load on Instrument
MC12784-2.4	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-2.4	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-2.4	Scott Parsick		09/19/12 12:19	Disposed
MC12784-2.6	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12784-2.6	Nick Krasinski		08/08/12 23:10	Depleted
MC12784-3.2	Walk In Ref #22	Nick Krasinski	08/03/12 14:10	Retrieve from Storage
MC12784-3.2	Nick Krasinski		08/03/12 21:11	Depleted
MC12784-3.3	VOC Ref #4	Amy Min Yang	08/15/12 17:39	Retrieve from Storage
MC12784-3.3	Amy Min Yang	GCMSV	08/15/12 17:39	Load on Instrument
MC12784-3.3	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-3.3	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-3.3	Scott Parsick		09/19/12 12:19	Disposed

5.3  
5

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12784  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/02/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12784-3.4	VOC Ref #4	Amy Min Yang	08/14/12 16:43	Retrieve from Storage
MC12784-3.4	Amy Min Yang	GCMSV	08/14/12 16:43	Load on Instrument
MC12784-3.4	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12784-3.4	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12784-3.4	Scott Parsick		09/19/12 12:19	Disposed
MC12784-3.5	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12784-3.5	Nick Krasinski		08/08/12 23:10	Depleted
MC12784-4.2	Walk In Ref #22	Nick Krasinski	08/03/12 14:10	Retrieve from Storage
MC12784-4.2	Nick Krasinski		08/03/12 21:11	Depleted
MC12784-4.4	VOC Ref #4	Amy Min Yang	08/14/12 16:43	Retrieve from Storage
MC12784-4.4	Amy Min Yang	GCMSV	08/14/12 16:43	Load on Instrument
MC12784-4.4	GCMSV	Amy Min Yang	08/15/12 17:23	Unload from Instrument
MC12784-4.4	Amy Min Yang	VOC Ref #4	08/15/12 17:23	Return to Storage
MC12784-4.4	Scott Parsick		09/19/12 12:19	Disposed
MC12784-4.5	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12784-4.5	Nick Krasinski		08/08/12 23:10	Depleted
MC12784-5.1	VOC Ref #4	Amy Min Yang	08/14/12 16:43	Retrieve from Storage
MC12784-5.1	Amy Min Yang	GCMSV	08/14/12 16:43	Load on Instrument
MC12784-5.1	GCMSV	Amy Min Yang	08/15/12 17:23	Unload from Instrument
MC12784-5.1	Amy Min Yang	VOC Ref #4	08/15/12 17:23	Return to Storage
MC12784-5.1	Scott Parsick		09/19/12 12:19	Disposed
MC12784-6.2	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12784-6.2	Nick Krasinski		08/08/12 23:10	Depleted

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**GC/MS Volatiles**

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**QC Data Summaries**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-MB	V10475.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

6.1.1  
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# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-MB	V10475.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-MB	V10475.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	95% 70-130%
2037-26-5	Toluene-D8	98% 70-130%
460-00-4	4-Bromofluorobenzene	95% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6



# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-MB	V10528.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-MB	V10528.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-MB	V10528.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 70-130%
2037-26-5	Toluene-D8	97% 70-130%
460-00-4	4-Bromofluorobenzene	96% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.2  
6

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-BS	V10473.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	68.4	137* a	70-130
107-02-8	Acrolein	250	239	96	70-130
107-13-1	Acrylonitrile	50	237	474* b	70-130
71-43-2	Benzene	50	45.8	92	70-130
108-86-1	Bromobenzene	50	49.4	99	70-130
74-97-5	Bromochloromethane	50	48.0	96	70-130
75-27-4	Bromodichloromethane	50	44.4	89	70-130
75-25-2	Bromoform	50	45.2	90	70-130
74-83-9	Bromomethane	50	44.7	89	70-130
78-93-3	2-Butanone (MEK)	50	56.9	114	70-130
104-51-8	n-Butylbenzene	50	50.0	100	70-130
135-98-8	sec-Butylbenzene	50	53.6	107	70-130
98-06-6	tert-Butylbenzene	50	52.0	104	70-130
75-15-0	Carbon disulfide	50	53.2	106	70-130
56-23-5	Carbon tetrachloride	50	44.3	89	70-130
108-90-7	Chlorobenzene	50	51.5	103	70-130
75-00-3	Chloroethane	50	47.1	94	70-130
110-75-8	2-Chloroethyl vinyl ether	50	51.3	103	70-130
67-66-3	Chloroform	50	46.4	93	70-130
74-87-3	Chloromethane	50	48.8	98	70-130
95-49-8	o-Chlorotoluene	50	49.0	98	70-130
106-43-4	p-Chlorotoluene	50	50.3	101	70-130
124-48-1	Dibromochloromethane	50	41.9	84	70-130
95-50-1	1,2-Dichlorobenzene	50	50.7	101	70-130
541-73-1	1,3-Dichlorobenzene	50	50.4	101	70-130
106-46-7	1,4-Dichlorobenzene	50	46.5	93	70-130
75-71-8	Dichlorodifluoromethane	50	63.4	127	70-130
75-34-3	1,1-Dichloroethane	50	46.9	94	70-130
107-06-2	1,2-Dichloroethane	50	45.7	91	70-130
75-35-4	1,1-Dichloroethene	50	53.5	107	70-130
156-59-2	cis-1,2-Dichloroethene	50	46.2	92	70-130
156-60-5	trans-1,2-Dichloroethene	50	47.0	94	70-130
78-87-5	1,2-Dichloropropane	50	47.2	94	70-130
142-28-9	1,3-Dichloropropane	50	48.1	96	70-130
594-20-7	2,2-Dichloropropane	50	52.6	105	70-130
563-58-6	1,1-Dichloropropene	50	49.9	100	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-BS	V10473.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	41.9	84	70-130
10061-02-6	trans-1,3-Dichloropropene	50	43.5	87	70-130
123-91-1	1,4-Dioxane	250	222	89	70-130
97-63-2	Ethyl methacrylate	50	45.7	91	77-137
100-41-4	Ethylbenzene	50	48.8	98	70-130
87-68-3	Hexachlorobutadiene	50	47.6	95	70-130
591-78-6	2-Hexanone	50	58.9	118	70-130
98-82-8	Isopropylbenzene	50	52.8	106	70-130
99-87-6	p-Isopropyltoluene	50	52.2	104	70-130
1634-04-4	Methyl Tert Butyl Ether	50	49.1	98	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.7	101	70-130
74-95-3	Methylene bromide	50	49.2	98	70-130
75-09-2	Methylene chloride	50	45.3	91	70-130
103-65-1	n-Propylbenzene	50	52.4	105	70-130
100-42-5	Styrene	50	50.7	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	43.9	88	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.5	93	70-130
127-18-4	Tetrachloroethene	50	46.9	94	70-130
108-88-3	Toluene	50	46.9	94	70-130
87-61-6	1,2,3-Trichlorobenzene	50	51.5	103	70-130
120-82-1	1,2,4-Trichlorobenzene	50	49.6	99	70-130
71-55-6	1,1,1-Trichloroethane	50	46.4	93	70-130
79-00-5	1,1,2-Trichloroethane	50	48.5	97	70-130
79-01-6	Trichloroethene	50	46.9	94	70-130
75-69-4	Trichlorofluoromethane	50	51.0	102	70-130
96-18-4	1,2,3-Trichloropropane	50	47.5	95	70-130
95-63-6	1,2,4-Trimethylbenzene	50	46.6	93	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.1	94	70-130
108-05-4	Vinyl Acetate	50	47.8	96	70-130
75-01-4	Vinyl chloride	50	45.5	91	70-130
	m,p-Xylene	100	102	102	70-130
95-47-6	o-Xylene	50	52.6	105	70-130
1330-20-7	Xylene (total)	150	154	103	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12784  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV436-BS	V10473.D	1	08/14/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	104%	70-130%
460-00-4	4-Bromofluorobenzene	102%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-BS	V10526.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	65.7	131* a	70-130
107-02-8	Acrolein	250	251	100	70-130
107-13-1	Acrylonitrile	50	250	500* b	70-130
71-43-2	Benzene	50	45.9	92	70-130
108-86-1	Bromobenzene	50	48.4	97	70-130
74-97-5	Bromochloromethane	50	48.3	97	70-130
75-27-4	Bromodichloromethane	50	45.5	91	70-130
75-25-2	Bromoform	50	45.5	91	70-130
74-83-9	Bromomethane	50	48.3	97	70-130
78-93-3	2-Butanone (MEK)	50	57.4	115	70-130
104-51-8	n-Butylbenzene	50	50.7	101	70-130
135-98-8	sec-Butylbenzene	50	53.1	106	70-130
98-06-6	tert-Butylbenzene	50	52.1	104	70-130
75-15-0	Carbon disulfide	50	54.7	109	70-130
56-23-5	Carbon tetrachloride	50	44.2	88	70-130
108-90-7	Chlorobenzene	50	49.1	98	70-130
75-00-3	Chloroethane	50	48.9	98	70-130
110-75-8	2-Chloroethyl vinyl ether	50	49.7	99	70-130
67-66-3	Chloroform	50	48.6	97	70-130
74-87-3	Chloromethane	50	47.0	94	70-130
95-49-8	o-Chlorotoluene	50	49.1	98	70-130
106-43-4	p-Chlorotoluene	50	50.6	101	70-130
124-48-1	Dibromochloromethane	50	42.2	84	70-130
95-50-1	1,2-Dichlorobenzene	50	50.7	101	70-130
541-73-1	1,3-Dichlorobenzene	50	49.3	99	70-130
106-46-7	1,4-Dichlorobenzene	50	45.6	91	70-130
75-71-8	Dichlorodifluoromethane	50	57.0	114	70-130
75-34-3	1,1-Dichloroethane	50	47.6	95	70-130
107-06-2	1,2-Dichloroethane	50	46.2	92	70-130
75-35-4	1,1-Dichloroethene	50	55.8	112	70-130
156-59-2	cis-1,2-Dichloroethene	50	47.4	95	70-130
156-60-5	trans-1,2-Dichloroethene	50	48.2	96	70-130
78-87-5	1,2-Dichloropropane	50	46.2	92	70-130
142-28-9	1,3-Dichloropropane	50	47.5	95	70-130
594-20-7	2,2-Dichloropropane	50	43.4	87	70-130
563-58-6	1,1-Dichloropropene	50	49.6	99	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-BS	V10526.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	39.0	78	70-130
10061-02-6	trans-1,3-Dichloropropene	50	40.3	81	70-130
123-91-1	1,4-Dioxane	250	247	99	70-130
97-63-2	Ethyl methacrylate	50	45.9	92	77-137
100-41-4	Ethylbenzene	50	48.1	96	70-130
87-68-3	Hexachlorobutadiene	50	44.2	88	70-130
591-78-6	2-Hexanone	50	58.1	116	70-130
98-82-8	Isopropylbenzene	50	52.5	105	70-130
99-87-6	p-Isopropyltoluene	50	50.0	100	70-130
1634-04-4	Methyl Tert Butyl Ether	50	48.4	97	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	53.1	106	70-130
74-95-3	Methylene bromide	50	50.2	100	70-130
75-09-2	Methylene chloride	50	47.0	94	70-130
103-65-1	n-Propylbenzene	50	52.8	106	70-130
100-42-5	Styrene	50	48.9	98	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	42.2	84	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	49.0	98	70-130
127-18-4	Tetrachloroethene	50	45.0	90	70-130
108-88-3	Toluene	50	46.2	92	70-130
87-61-6	1,2,3-Trichlorobenzene	50	49.3	99	70-130
120-82-1	1,2,4-Trichlorobenzene	50	47.1	94	70-130
71-55-6	1,1,1-Trichloroethane	50	46.8	94	70-130
79-00-5	1,1,2-Trichloroethane	50	48.8	98	70-130
79-01-6	Trichloroethene	50	47.1	94	70-130
75-69-4	Trichlorofluoromethane	50	50.0	100	70-130
96-18-4	1,2,3-Trichloropropane	50	44.6	89	70-130
95-63-6	1,2,4-Trimethylbenzene	50	45.8	92	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.5	93	70-130
108-05-4	Vinyl Acetate	50	49.2	98	70-130
75-01-4	Vinyl chloride	50	44.4	89	70-130
	m,p-Xylene	100	96.9	97	70-130
95-47-6	o-Xylene	50	49.9	100	70-130
1330-20-7	Xylene (total)	150	147	98	70-130

\* = Outside of Control Limits.



## Blank Spike Summary

Job Number: MC12784  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV438-BS	V10526.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12978-4MS	V10492.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4MSD	V10493.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4	V10491.D	1	08/15/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	MC12978-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	8.0	50	46.4	77	50	43.8	72	6	70-130/30
107-02-8	Acrolein	ND	250	229	92	250	227	91	1	70-130/30
107-13-1	Acrylonitrile	ND	50	264	528* a	50	258	516* a	2	70-130/30
71-43-2	Benzene	ND	50	48.5	97	50	47.5	95	2	70-130/30
108-86-1	Bromobenzene	ND	50	50.4	101	50	49.9	100	1	70-130/30
74-97-5	Bromochloromethane	ND	50	49.4	99	50	49.2	98	0	70-130/30
75-27-4	Bromodichloromethane	ND	50	45.6	91	50	45.6	91	0	70-130/30
75-25-2	Bromoform	ND	50	42.8	86	50	44.2	88	3	70-130/30
74-83-9	Bromomethane	ND	50	53.5	107	50	51.7	103	3	70-130/30
78-93-3	2-Butanone (MEK)	ND	50	45.8	92	50	45.5	91	1	70-130/30
104-51-8	n-Butylbenzene	ND	50	52.5	105	50	51.4	103	2	70-130/30
135-98-8	sec-Butylbenzene	ND	50	56.0	112	50	55.0	110	2	70-130/30
98-06-6	tert-Butylbenzene	ND	50	55.6	111	50	54.4	109	2	70-130/30
75-15-0	Carbon disulfide	ND	50	52.4	105	50	55.1	110	5	70-130/30
56-23-5	Carbon tetrachloride	ND	50	47.0	94	50	47.1	94	0	70-130/30
108-90-7	Chlorobenzene	ND	50	52.5	105	50	51.9	104	1	70-130/30
75-00-3	Chloroethane	ND	50	57.8	116	50	55.3	111	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	50	ND	0* b	50	ND	0* b	nc	70-130/30
67-66-3	Chloroform	ND	50	50.2	100	50	49.7	99	1	70-130/30
74-87-3	Chloromethane	ND	50	58.0	116	50	56.5	113	3	70-130/30
95-49-8	o-Chlorotoluene	ND	50	51.5	103	50	50.9	102	1	70-130/30
106-43-4	p-Chlorotoluene	ND	50	53.0	106	50	52.0	104	2	70-130/30
124-48-1	Dibromochloromethane	ND	50	40.9	82	50	41.5	83	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	50	51.8	104	50	51.5	103	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	50	51.1	102	50	50.7	101	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	50	47.2	94	50	46.4	93	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND	50	68.4	137* b	50	64.4	129	6	70-130/30
75-34-3	1,1-Dichloroethane	ND	50	50.2	100	50	49.6	99	1	70-130/30
107-06-2	1,2-Dichloroethane	ND	50	47.6	95	50	46.6	93	2	70-130/30
75-35-4	1,1-Dichloroethene	ND	50	59.1	118	50	58.2	116	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	50	49.7	99	50	48.8	98	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	50	51.2	102	50	50.1	100	2	70-130/30
78-87-5	1,2-Dichloropropane	ND	50	48.5	97	50	47.8	96	1	70-130/30
142-28-9	1,3-Dichloropropane	ND	50	47.9	96	50	47.8	96	0	70-130/30
594-20-7	2,2-Dichloropropane	ND	50	41.8	84	50	41.9	84	0	70-130/30
563-58-6	1,1-Dichloropropene	ND	50	53.7	107	50	52.0	104	3	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12978-4MS	V10492.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4MSD	V10493.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4	V10491.D	1	08/15/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Compound	MC12978-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	50	39.4	79	50	39.2	78	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	50	39.8	80	50	40.2	80	1	70-130/30
123-91-1	1,4-Dioxane	ND	250	222	89	250	223	89	0	70-130/30
97-63-2	Ethyl methacrylate	ND	50	43.5	87	50	43.5	87	0	72-139/30
100-41-4	Ethylbenzene	1.2	50	51.9	101	50	51.0	100	2	70-130/30
87-68-3	Hexachlorobutadiene	ND	50	44.3	89	50	45.1	90	2	70-130/30
591-78-6	2-Hexanone	ND	50	46.4	93	50	46.2	92	0	70-130/30
98-82-8	Isopropylbenzene	ND	50	55.5	111	50	54.2	108	2	70-130/30
99-87-6	p-Isopropyltoluene	ND	50	53.3	107	50	52.5	105	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	50	47.0	94	50	47.5	95	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	46.6	93	50	46.7	93	0	70-130/30
74-95-3	Methylene bromide	ND	50	49.7	99	50	49.5	99	0	70-130/30
75-09-2	Methylene chloride	ND	50	49.0	98	50	48.1	96	2	70-130/30
103-65-1	n-Propylbenzene	ND	50	55.6	111	50	54.5	109	2	70-130/30
100-42-5	Styrene	ND	50	51.5	103	50	50.9	102	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	44.5	89	50	44.5	89	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	45.6	91	50	46.2	92	1	70-130/30
127-18-4	Tetrachloroethene	ND	50	47.3	95	50	46.3	93	2	70-130/30
108-88-3	Toluene	0.87	50	48.8	96	50	47.8	94	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	50	41.2	82	50	48.0	96	15	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	50	45.5	91	50	47.0	94	3	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	50	49.3	99	50	49.7	99	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	50	48.5	97	50	48.0	96	1	70-130/30
79-01-6	Trichloroethene	ND	50	49.3	99	50	48.1	96	2	70-130/30
75-69-4	Trichlorofluoromethane	ND	50	54.4	109	50	53.9	108	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	50	41.4	83	50	41.5	83	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	50	48.1	96	50	47.3	95	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	50	48.9	98	50	48.0	96	2	70-130/30
108-05-4	Vinyl Acetate	ND	50	46.3	93	50	47.2	94	2	70-130/30
75-01-4	Vinyl chloride	ND	50	54.3	109	50	52.2	104	4	70-130/30
	m,p-Xylene	0.93	100	105	104	100	102	101	3	70-130/30
95-47-6	o-Xylene	ND	50	53.4	107	50	52.6	105	2	70-130/30
1330-20-7	Xylene (total)	1.4	150	158	104	150	155	102	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12978-4MS	V10492.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4MSD	V10493.D	1	08/15/12	AMY	n/a	n/a	MSV436
MC12978-4	V10491.D	1	08/15/12	AMY	n/a	n/a	MSV436

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-4, MC12784-5

CAS No.	Surrogate Recoveries	MS	MSD	MC12978-4	Limits
1868-53-7	Dibromofluoromethane	100%	101%	95%	70-130%
2037-26-5	Toluene-D8	99%	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	96%	96%	97%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12784-1MS	V10547.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1MSD	V10548.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1	V10529.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	MC12784-1		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
67-64-1	Acetone	ND	250	219	88	250	219	88	0	70-130/30
107-02-8	Acrolein	ND	1250	1140	91	1250	1120	90	2	70-130/30
107-13-1	Acrylonitrile	ND	250	1320	528* a	250	1280	512* a	3	70-130/30
71-43-2	Benzene	1.6	250	242	96	250	236	94	3	70-130/30
108-86-1	Bromobenzene	ND	250	246	98	250	241	96	2	70-130/30
74-97-5	Bromochloromethane	ND	250	247	99	250	242	97	2	70-130/30
75-27-4	Bromodichloromethane	ND	250	228	91	250	228	91	0	70-130/30
75-25-2	Bromoform	ND	250	209	84	250	211	84	1	70-130/30
74-83-9	Bromomethane	ND	250	289	116	250	275	110	5	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	223	89	250	213	85	5	70-130/30
104-51-8	n-Butylbenzene	ND	250	256	102	250	251	100	2	70-130/30
135-98-8	sec-Butylbenzene	ND	250	273	109	250	268	107	2	70-130/30
98-06-6	tert-Butylbenzene	ND	250	270	108	250	264	106	2	70-130/30
75-15-0	Carbon disulfide	ND	250	269	108	250	280	112	4	70-130/30
56-23-5	Carbon tetrachloride	ND	250	226	90	250	229	92	1	70-130/30
108-90-7	Chlorobenzene	ND	250	253	101	250	250	100	1	70-130/30
75-00-3	Chloroethane	ND	250	302	121	250	283	113	6	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	250	ND	0* b	250	ND	0* b	nc	70-130/30
67-66-3	Chloroform	ND	250	255	102	250	250	100	2	70-130/30
74-87-3	Chloromethane	ND	250	294	118	250	277	111	6	70-130/30
95-49-8	o-Chlorotoluene	ND	250	255	102	250	248	99	3	70-130/30
106-43-4	p-Chlorotoluene	ND	250	261	104	250	254	102	3	70-130/30
124-48-1	Dibromochloromethane	ND	250	199	80	250	202	81	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	255	102	250	253	101	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	251	100	250	247	99	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	233	93	250	228	91	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	290	116	250	303	121	4	70-130/30
75-34-3	1,1-Dichloroethane	ND	250	248	99	250	243	97	2	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	234	94	250	229	92	2	70-130/30
75-35-4	1,1-Dichloroethene	ND	250	295	118	250	285	114	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	250	251	100	250	245	98	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	258	103	250	249	100	4	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	238	95	250	234	94	2	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	231	92	250	228	91	1	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	162	65* b	250	168	67* b	4	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	262	105	250	257	103	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12784-1MS	V10547.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1MSD	V10548.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1	V10529.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Compound	MC12784-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	250	184	74	250	184	74	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	250	181	72	250	183	73	1	70-130/30
123-91-1	1,4-Dioxane	ND	1250	1030	82	1250	952	76	8	70-130/30
97-63-2	Ethyl methacrylate	ND	250	212	85	250	211	84	0	72-139/30
100-41-4	Ethylbenzene	ND	250	249	100	250	245	98	2	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	209	84	250	207	83	1	70-130/30
591-78-6	2-Hexanone	ND	250	226	90	250	224	90	1	70-130/30
98-82-8	Isopropylbenzene	ND	250	274	110	250	266	106	3	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	255	102	250	251	100	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	1.9	250	229	91	250	226	90	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	230	92	250	226	90	2	70-130/30
74-95-3	Methylene bromide	ND	250	248	99	250	243	97	2	70-130/30
75-09-2	Methylene chloride	ND	250	248	99	250	241	96	3	70-130/30
103-65-1	n-Propylbenzene	ND	250	273	109	250	266	106	3	70-130/30
100-42-5	Styrene	ND	250	249	100	250	247	99	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	212	85	250	212	85	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	225	90	250	222	89	1	70-130/30
127-18-4	Tetrachloroethene	ND	250	227	91	250	227	91	0	70-130/30
108-88-3	Toluene	ND	250	239	96	250	236	94	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	196	78	250	224	90	13	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	216	86	250	222	89	3	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	241	96	250	245	98	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	238	95	250	234	94	2	70-130/30
79-01-6	Trichloroethene	ND	250	242	97	250	238	95	2	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	268	107	250	269	108	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	203	81	250	201	80	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	237	95	250	232	93	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	241	96	250	236	94	2	70-130/30
108-05-4	Vinyl Acetate	ND	250	236	94	250	236	94	0	70-130/30
75-01-4	Vinyl chloride	ND	250	274	110	250	258	103	6	70-130/30
	m,p-Xylene	ND	500	497	99	500	492	98	1	70-130/30
95-47-6	o-Xylene	ND	250	256	102	250	254	102	1	70-130/30
1330-20-7	Xylene (total)	ND	750	754	101	750	746	99	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12784-1MS	V10547.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1MSD	V10548.D	5	08/16/12	AMY	n/a	n/a	MSV438
MC12784-1	V10529.D	1	08/15/12	AMY	n/a	n/a	MSV438

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12784-1, MC12784-2, MC12784-3

CAS No.	Surrogate Recoveries	MS	MSD	MC12784-1	Limits
1868-53-7	Dibromofluoromethane	103%	102%	98%	70-130%
2037-26-5	Toluene-D8	99%	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	96%	95%	96%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Volatile Internal Standard Area Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSV436-CC436	Injection Date:	08/14/12
Lab File ID:	V10473.D	Injection Time:	16:24
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	492683	6.53	834769	7.72	458798	11.08	376520	13.31	219409	3.49
Upper Limit <sup>a</sup>	985366	7.03	1669538	8.22	917596	11.58	753040	13.81	438818	3.99
Lower Limit <sup>b</sup>	246342	6.03	417385	7.22	229399	10.58	188260	12.81	109705	2.99

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSV436-BS	492683	6.53	834769	7.72	458798	11.08	376520	13.31	219409	3.49
MSV436-MB	474379	6.54	821945	7.73	446793	11.08	357628	13.31	211406	3.51
ZZZZZZ	471993	6.54	811718	7.72	439858	11.08	350451	13.31	208816	3.51
ZZZZZZ	468868	6.54	809272	7.73	436958	11.08	347041	13.31	204454	3.51
MC12784-5	459155	6.54	798006	7.73	430893	11.08	339384	13.31	196145	3.51
MC12784-4	458566	6.53	794640	7.72	433418	11.08	339016	13.31	192000	3.50
ZZZZZZ	453374	6.54	787666	7.73	425476	11.08	333826	13.31	188772	3.51
ZZZZZZ	452683	6.54	787414	7.73	427926	11.08	334265	13.31	185661	3.52
ZZZZZZ	452807	6.53	781316	7.72	425283	11.08	335334	13.31	181222	3.51
ZZZZZZ	444982	6.54	769934	7.73	420108	11.08	325557	13.31	177054	3.51
ZZZZZZ	463025	6.53	807680	7.72	439343	11.08	340611	13.31	177922	3.51
ZZZZZZ	446611	6.54	773669	7.73	423143	11.08	326386	13.31	167077	3.51
ZZZZZZ	444437	6.54	775469	7.73	419562	11.08	326890	13.31	161095	3.51
ZZZZZZ	447060	6.54	777115	7.73	425781	11.08	333607	13.31	163872	3.52
ZZZZZZ	449078	6.54	783773	7.73	428792	11.08	337100	13.31	159582	3.51
ZZZZZZ	455677	6.54	779840	7.73	421066	11.08	330061	13.31	162970	3.51
ZZZZZZ	434471	6.54	757639	7.73	411586	11.08	323859	13.31	156161	3.51
MC12978-4	446388	6.53	772351	7.72	419797	11.08	327418	13.31	158023	3.50
MC12978-4MS	451732	6.54	775749	7.73	424641	11.08	341267	13.31	169032	3.51
MC12978-4MSD	450187	6.53	781959	7.72	426053	11.08	343648	13.31	173123	3.50

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.1  
6



# Volatile Internal Standard Area Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSV438-CC436	Injection Date:	08/15/12
Lab File ID:	V10525.D	Injection Time:	18:19
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	419715	6.55	726864	7.73	404512	11.08	320394	13.31	192684	3.52
Upper Limit <sup>a</sup>	839430	7.05	1453728	8.23	809024	11.58	640788	13.81	385368	4.02
Lower Limit <sup>b</sup>	209858	6.05	363432	7.23	202256	10.58	160197	12.81	96342	3.02

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSV438-BS	421621	6.55	734246	7.73	406653	11.08	323326	13.31	189923	3.52
MSV438-MB	414455	6.55	726914	7.73	395289	11.08	303592	13.31	164685	3.52
MC12784-1	408786	6.55	719943	7.73	392533	11.08	303375	13.31	155513	3.51
MC12784-2	432474	6.55	758674	7.73	416954	11.08	320321	13.31	157857	3.51
MC12784-3	403315	6.55	710297	7.73	389144	11.08	297021	13.31	148391	3.52
ZZZZZZ	404374	6.54	710090	7.73	391337	11.08	301224	13.31	146246	3.51
ZZZZZZ	408797	6.55	721028	7.73	394912	11.08	311440	13.31	163332	3.53
ZZZZZZ	415858	6.54	724048	7.73	396692	11.08	317806	13.31	143255	3.51
ZZZZZZ	442954	6.55	773936	7.73	425488	11.08	338832	13.31	145309	3.52
ZZZZZZ	417158	6.54	729483	7.73	395216	11.08	310010	13.31	124756	3.52
ZZZZZZ	415771	6.54	727510	7.73	398291	11.08	304583	13.31	120444	3.51
ZZZZZZ	411116	6.54	718115	7.73	391129	11.08	302693	13.31	132797	3.52
ZZZZZZ	407635	6.54	721047	7.73	391918	11.08	300545	13.31	123655	3.52
ZZZZZZ	405101	6.55	713193	7.73	391833	11.08	298532	13.32	125633	3.52
ZZZZZZ	407197	6.54	717962	7.73	392603	11.08	298891	13.32	126126	3.51
ZZZZZZ	408937	6.55	720946	7.73	392250	11.08	301879	13.32	121812	3.52
ZZZZZZ	436986	6.54	768522	7.73	420032	11.08	322571	13.32	141618	3.51
ZZZZZZ	399301	6.55	706566	7.73	386544	11.08	296645	13.32	125772	3.52
ZZZZZZ	399199	6.55	702495	7.73	385419	11.08	293780	13.32	117951	3.52
MC12784-1MS	405335	6.54	704109	7.73	391620	11.08	307020	13.32	127883	3.51
MC12784-1MSD	406009	6.55	704595	7.73	390235	11.08	310292	13.32	124055	3.51

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Surrogate Recovery Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12784-1	V10529.D	98	98	96
MC12784-2	V10530.D	98	98	96
MC12784-3	V10531.D	97	97	97
MC12784-4	V10479.D	95	99	97
MC12784-5	V10478.D	96	99	98
MC12784-1MS	V10547.D	103	99	96
MC12784-1MSD	V10548.D	102	99	95
MC12978-4MS	V10492.D	100	99	96
MC12978-4MSD	V10493.D	101	99	96
MSV436-BS	V10473.D	103	104	102
MSV436-MB	V10475.D	95	98	95
MSV438-BS	V10526.D	101	98	95
MSV438-MB	V10528.D	96	97	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.5.1  
6

**GC/MS Semi-volatiles****QC Data Summaries****7**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-MB	F56590.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-MB	F56590.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	47% 15-110%
4165-62-2	Phenol-d5	32% 15-110%
118-79-6	2,4,6-Tribromophenol	76% 15-110%
4165-60-0	Nitrobenzene-d5	79% 30-130%
321-60-8	2-Fluorobiphenyl	75% 30-130%
1718-51-0	Terphenyl-d14	94% 30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29916-MB	W3685.D	1	08/07/12	KR	08/03/12	OP29916	MSW169

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	85%	30-130%
321-60-8	2-Fluorobiphenyl	73%	30-130%
1718-51-0	Terphenyl-d14	119%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-BS	F56591.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	38.1	38	30-130
95-57-8	2-Chlorophenol	100	75.0	75	30-130
59-50-7	4-Chloro-3-methyl phenol	100	78.8	79	30-130
120-83-2	2,4-Dichlorophenol	100	82.2	82	30-130
105-67-9	2,4-Dimethylphenol	100	75.4	75	30-130
51-28-5	2,4-Dinitrophenol	100	72.8	73	30-130
534-52-1	4,6-Dinitro-o-cresol	100	90.4	90	30-130
95-48-7	2-Methylphenol	100	67.9	68	30-130
	3&4-Methylphenol	200	128	64	30-130
88-75-5	2-Nitrophenol	100	83.6	84	30-130
100-02-7	4-Nitrophenol	100	39.2	39	30-130
87-86-5	Pentachlorophenol	100	81.4	81	30-130
108-95-2	Phenol	100	39.9	40	30-130
95-95-4	2,4,5-Trichlorophenol	100	80.8	81	30-130
88-06-2	2,4,6-Trichlorophenol	100	82.6	83	30-130
62-53-3	Aniline	50	15.8	32* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	41.7	83	40-140
85-68-7	Butyl benzyl phthalate	50	42.5	85	40-140
100-51-6	Benzyl Alcohol	50	34.3	69	40-140
91-58-7	2-Chloronaphthalene	50	41.7	83	40-140
106-47-8	4-Chloroaniline	50	29.3	59	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	43.0	86	40-140
111-44-4	bis(2-Chloroethyl)ether	50	41.4	83	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	45.4	91	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	41.5	83	40-140
122-66-7	1,2-Diphenylhydrazine	50	40.3	81	40-140
121-14-2	2,4-Dinitrotoluene	50	42.9	86	40-140
606-20-2	2,6-Dinitrotoluene	50	42.3	85	40-140
91-94-1	3,3'-Dichlorobenzidine	50	32.4	65	40-140
132-64-9	Dibenzofuran	50	39.6	79	40-140
84-74-2	Di-n-butyl phthalate	50	40.9	82	40-140
117-84-0	Di-n-octyl phthalate	50	35.4	71	40-140
84-66-2	Diethyl phthalate	50	40.0	80	40-140
131-11-3	Dimethyl phthalate	50	41.8	84	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	40.7	81	40-140
118-74-1	Hexachlorobenzene	50	40.1	80	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-BS	F56591.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	24.5	49	40-140
67-72-1	Hexachloroethane	50	31.9	64	40-140
78-59-1	Isophorone	50	40.3	81	40-140
88-74-4	2-Nitroaniline	50	42.4	85	40-140
99-09-2	3-Nitroaniline	50	34.0	68	40-140
100-01-6	4-Nitroaniline	50	38.0	76	40-140
98-95-3	Nitrobenzene	50	42.0	84	40-140
62-75-9	n-Nitrosodimethylamine	50	26.0	52	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	44.1	88	40-140
86-30-6	N-Nitrosodiphenylamine	50	41.5	83	40-140
110-86-1	Pyridine	50	21.3	43	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	53%	15-110%
4165-62-2	Phenol-d5	38%	15-110%
118-79-6	2,4,6-Tribromophenol	77%	15-110%
4165-60-0	Nitrobenzene-d5	80%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	93%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.



# Blank Spike Summary

Job Number: MC12784

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29916-BS	W3643.D	1	08/06/12	KR	08/03/12	OP29916	MSW168

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.2	82	40-140
208-96-8	Acenaphthylene	50	34.5	69	40-140
120-12-7	Anthracene	50	48.0	96	40-140
56-55-3	Benzo(a)anthracene	50	50.3	101	40-140
50-32-8	Benzo(a)pyrene	50	37.6	75	40-140
205-99-2	Benzo(b)fluoranthene	50	49.2	98	40-140
191-24-2	Benzo(g,h,i)perylene	50	52.1	104	40-140
207-08-9	Benzo(k)fluoranthene	50	48.3	97	40-140
218-01-9	Chrysene	50	43.3	87	40-140
53-70-3	Dibenzo(a,h)anthracene	50	52.2	104	40-140
206-44-0	Fluoranthene	50	48.3	97	40-140
86-73-7	Fluorene	50	46.2	92	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	52.3	105	40-140
90-12-0	1-Methylnaphthalene	50	36.0	72	40-140
91-57-6	2-Methylnaphthalene	50	40.5	81	40-140
91-20-3	Naphthalene	50	41.7	83	40-140
85-01-8	Phenanthrene	50	46.3	93	40-140
129-00-0	Pyrene	50	47.6	95	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	86%	30-130%
321-60-8	2-Fluorobiphenyl	78%	30-130%
1718-51-0	Terphenyl-d14	114%	30-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-MS	F56592.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
OP29915-MSD	F56593.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
MC12712-7	F56594.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	MC12712-7 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	38.1	38	100	38.5	39	1	30-130/20
95-57-8	2-Chlorophenol	ND	100	72.4	72	100	77.9	78	7	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	76.5	77	100	82.9	83	8	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	78.8	79	100	84.5	85	7	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	70.9	71	100	77.7	78	9	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	75.4	75	100	81.3	81	8	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	87.2	87	100	96.8	97	10	30-130/20
95-48-7	2-Methylphenol	ND	100	65.9	66	100	70.4	70	7	30-130/20
	3&4-Methylphenol	ND	200	123	62	200	132	66	7	30-130/20
88-75-5	2-Nitrophenol	ND	100	79.9	80	100	87.7	88	9	30-130/20
100-02-7	4-Nitrophenol	ND	100	38.9	39	100	41.3	41	6	30-130/20
87-86-5	Pentachlorophenol	ND	100	77.7	78	100	83.5	84	7	30-130/20
108-95-2	Phenol	ND	100	39.3	39	100	40.5	41	3	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	79.3	79	100	86.0	86	8	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	82.7	83	100	90.4	90	9	30-130/20
62-53-3	Aniline	ND	50	14.7	29* a	50	16.9	34* a	14	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	39.3	79	50	43.1	86	9	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	41.6	83	50	45.5	91	9	40-140/20
100-51-6	Benzyl Alcohol	ND	50	33.1	66	50	35.6	71	7	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	38.4	77	50	40.9	82	6	40-140/20
106-47-8	4-Chloroaniline	ND	50	28.8	58	50	32.4	65	12	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	41.5	83	50	45.2	90	9	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	39.3	79	50	43.0	86	9	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	43.3	87	50	46.8	94	8	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	40.0	80	50	43.7	87	9	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	38.4	77	50	41.6	83	8	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	42.8	86	50	46.0	92	7	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	41.7	83	50	44.8	90	7	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	34.7	69	50	36.5	73	5	40-140/20
132-64-9	Dibenzofuran	ND	50	37.6	75	50	40.5	81	7	40-140/20
84-74-2	Di-n-butyl phthalate	ND	50	39.5	79	50	42.9	86	8	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	33.3	67	50	36.1	72	8	40-140/20
84-66-2	Diethyl phthalate	ND	50	39.7	79	50	43.4	87	9	40-140/20
131-11-3	Dimethyl phthalate	ND	50	41.7	83	50	45.2	90	8	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND	50	41.0	82	50	44.1	88	7	40-140/20
118-74-1	Hexachlorobenzene	ND	50	38.9	78	50	41.8	84	7	40-140/20

\* = Outside of Control Limits.

7.3.1  
7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29915-MS	F56592.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
OP29915-MSD	F56593.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691
MC12712-7	F56594.D	1	08/06/12	KR	08/03/12	OP29915	MSF2691

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12784-1, MC12784-2, MC12784-3, MC12784-4

7.3.1  
7

CAS No.	Compound	MC12712-7 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	19.8	40	50	22.0	44	11	40-140/20
67-72-1	Hexachloroethane	ND	50	26.8	54	50	28.2	56	5	40-140/20
78-59-1	Isophorone	ND	50	39.8	80	50	41.8	84	5	40-140/20
88-74-4	2-Nitroaniline	ND	50	41.6	83	50	45.5	91	9	40-140/20
99-09-2	3-Nitroaniline	ND	50	35.3	71	50	38.1	76	8	40-140/20
100-01-6	4-Nitroaniline	ND	50	37.1	74	50	40.9	82	10	40-140/20
98-95-3	Nitrobenzene	ND	50	39.8	80	50	42.6	85	7	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	23.9	48	50	26.3	53	10	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	42.3	85	50	45.9	92	8	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	40.2	80	50	43.6	87	8	40-140/20
110-86-1	Pyridine	ND	50	19.0	38* a	50	21.7	43	13	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12712-7	Limits
367-12-4	2-Fluorophenol	52%	53%	46%	15-110%
4165-62-2	Phenol-d5	37%	38%	31%	15-110%
118-79-6	2,4,6-Tribromophenol	75%	82%	72%	15-110%
4165-60-0	Nitrobenzene-d5	77%	84%	75%	30-130%
321-60-8	2-Fluorobiphenyl	69%	77%	70%	30-130%
1718-51-0	Terphenyl-d14	91%	100%	93%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29916-MS	W3644.D	1	08/06/12	KR	08/03/12	OP29916	MSW168
OP29916-MSD	W3645.D	1	08/06/12	KR	08/03/12	OP29916	MSW168
MC12712-6	W3646.D	1	08/06/12	KR	08/03/12	OP29916	MSW168

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12784-1, MC12784-2, MC12784-3, MC12784-4

CAS No.	Compound	MC12712-6 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	0.018	50	38.3	77	50	41.5	83	8	40-140/20
208-96-8	Acenaphthylene	ND	50	32.2	64	50	34.7	69	7	40-140/20
120-12-7	Anthracene	ND	50	46.2	92	50	50.6	101	9	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	48.9	98	50	53.2	106	8	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	36.4	73	50	39.2	78	7	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	47.4	95	50	50.6	101	7	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	50.2	100	50	54.2	108	8	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	46.8	94	50	50.5	101	8	40-140/20
218-01-9	Chrysene	ND	50	42.4	85	50	46.1	92	8	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	50.5	101	50	54.5	109	8	40-140/20
206-44-0	Fluoranthene	ND	50	47.3	95	50	51.7	103	9	40-140/20
86-73-7	Fluorene	ND	50	44.4	89	50	47.7	95	7	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	50.7	101	50	54.5	109	7	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	30.8	62	50	31.0	62	1	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	36.2	72	50	38.5	77	6	40-140/20
91-20-3	Naphthalene	ND	50	37.2	74	50	39.9	80	7	40-140/20
85-01-8	Phenanthrene	0.019	50	45.1	90	50	48.5	97	7	40-140/20
129-00-0	Pyrene	ND	50	46.2	92	50	50.1	100	8	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12712-6	Limits
4165-60-0	Nitrobenzene-d5	83%	89%	82%	30-130%
321-60-8	2-Fluorobiphenyl	70%	77%	67%	30-130%
1718-51-0	Terphenyl-d14	109%	122%	118%	30-130%

\* = Outside of Control Limits.

# Semivolatile Internal Standard Area Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2691-CC2682	Injection Date:	08/06/12
Lab File ID:	F56589.D	Injection Time:	15:02
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	432950	3.99	1631613	4.98	1044581	6.40	1933815	7.76	1782479	10.53	1710404	11.99
Upper Limit <sup>a</sup>	865900	4.49	3263226	5.48	2089162	6.90	3867630	8.26	3564958	11.03	3420808	12.49
Lower Limit <sup>b</sup>	216475	3.49	815807	4.48	522291	5.90	966908	7.26	891240	10.03	855202	11.49

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29915-MB	383650	3.99	1437821	4.98	907299	6.40	1696845	7.76	1570844	10.53	1822542	11.99
OP29915-BS	418118	3.99	1538950	4.98	988216	6.40	1791223	7.76	1694824	10.53	1935287	11.99
OP29915-MS	436229	3.99	1607758	4.98	1020447	6.41	1900410	7.76	1728310	10.53	2099324	11.99
OP29915-MSD	402216	3.99	1487896	4.98	941735	6.41	1745345	7.76	1599738	10.53	1955955	11.99
MC12712-7	396414	3.99	1479004	4.98	923875	6.40	1671577	7.76	1603384	10.53	1964464	11.99
ZZZZZZ	427835	3.99	1601739	4.97	998637	6.40	1823384	7.76	1706117	10.53	2074537	11.99
MC12784-1	409583	3.99	1525751	4.97	958692	6.40	1728938	7.76	1640200	10.53	1998028	11.99
MC12784-2	406549	3.99	1538543	4.98	940592	6.40	1710294	7.76	1586298	10.53	1934047	11.99
MC12784-3	393285	3.99	1481827	4.98	914958	6.40	1667369	7.76	1566609	10.53	1891745	11.99
MC12784-4	406739	3.99	1485869	4.98	956983	6.40	1741932	7.76	1617003	10.53	1961484	11.99
OP29913-MB	438216	3.99	1579899	4.97	974103	6.40	1721295	7.76	1137697	10.53	966525	11.99
OP29913-BS	449657	3.99	1643524	4.98	1003988	6.41	1806382	7.76	1166998	10.53	985455	11.99
OP29913-MS	479854	3.99	1746006	4.98	1076826	6.41	1911585	7.76	1696703	10.54	1888633	11.99
OP29913-MSD	470246	3.99	1704887	4.98	1069728	6.40	1895865	7.76	1663094	10.53	1777284	11.99
MC12802-4	498577	3.99	1827931	4.97	1131169	6.40	2029158	7.76	1775783	10.53	1759471	11.99
ZZZZZZ	466830	3.99	1669951	4.98	1058462	6.40	1916240	7.76	1648111	10.53	1597537	11.99
ZZZZZZ	468133	3.99	1714786	4.98	1059444	6.41	1905364	7.76	1617097	10.53	1549703	11.99
ZZZZZZ	456363	3.99	1669126	4.98	1035231	6.40	1817256	7.76	1595312	10.53	1522923	11.99
ZZZZZZ	492269	3.99	1844114	4.98	1152515	6.41	2020688	7.76	1655477	10.53	1395627	11.99
ZZZZZZ	452289	3.99	1670208	4.98	1027604	6.41	1784172	7.76	1473576	10.53	1257377	11.99
ZZZZZZ	438063	3.99	1624022	4.98	1019445	6.40	1809419	7.76	1445035	10.53	1219928	11.99
ZZZZZZ	450870	3.99	1674794	4.98	1029454	6.40	1843976	7.76	1652467	10.53	2035826	11.99
ZZZZZZ	427581	3.99	1559440	4.98	943546	6.41	1677679	7.76	1567724	10.53	1905392	11.99
ZZZZZZ	487095	3.99	1763097	4.98	1075475	6.41	1907123	7.76	1683625	10.53	2012400	11.99
ZZZZZZ	446207	3.99	1659081	4.98	1064460	6.40	1916454	7.76	1788087	10.53	1920691	11.99
ZZZZZZ	437852	3.99	1641716	4.98	1032841	6.40	1864183	7.76	1697041	10.53	1828261	11.99
ZZZZZZ	539439	3.99	1976552	4.98	1190109	6.41	2072088	7.76	1719619	10.53	2031859	11.99
ZZZZZZ	425645	3.99	1600729	4.98	996332	6.41	1795515	7.76	1619594	10.53	1990029	12.00
ZZZZZZ	395855	3.99	1476618	4.98	915590	6.41	1604991	7.76	1426754	10.54	1753604	12.00

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12

7.4.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12784  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2691-CC2682	Injection Date:	08/06/12
Lab File ID:	F56589.D	Injection Time:	15:02
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW168-CC72	Injection Date:	08/06/12
Lab File ID:	W3636.D	Injection Time:	13:27
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	1236243	3.82	4608746	4.80	2670470	6.23	4429888	7.55	4560101	10.33	6355294	11.79
Upper Limit <sup>a</sup>	2472486	4.32	9217492	5.30	5340940	6.73	8859776	8.05	9120202	10.83	12710588	12.29
Lower Limit <sup>b</sup>	618122	3.32	2304373	4.30	1335235	5.73	2214944	7.05	2280051	9.83	3177647	11.29

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29924-MB	854039	3.82	3285396	4.80	1869834	6.23	3113316	7.55	3187347	10.33	3999071	11.78
OP29924-BS	747448	3.82	2889281	4.80	1638807	6.23	2676159	7.55	2818519	10.33	3502535	11.78
OP29924-MS	752483	3.82	2951476	4.80	1687908	6.23	2689239	7.55	2798210	10.33	3462956	11.78
OP29924-MSD	769493	3.82	3042349	4.80	1735851	6.23	2803353	7.55	2894624	10.33	3635667	11.78
MC12811-2	690291	3.82	2774892	4.80	1600814	6.23	2619326	7.55	2627804	10.33	3464084	11.78
OP29916-BS	679320	3.82	2620928	4.80	1469583	6.23	2438504	7.55	2536571	10.33	3650316	11.78
OP29916-MS	705396	3.82	2724361	4.80	1528107	6.23	2527821	7.55	2636182	10.33	3797544	11.78
OP29916-MSD	637393	3.82	2486426	4.80	1396176	6.23	2322425	7.55	2421497	10.33	3551264	11.78
MC12712-6	625353	3.81	2438851	4.80	1371448	6.23	2256770	7.55	2307062	10.33	3514408	11.78
ZZZZZZ	598376 <sup>c</sup>	3.82	2420629	4.80	1401288	6.23	2261785	7.55	2303029	10.33	3300513	11.78
ZZZZZZ	625988	3.82	2506981	4.80	1441863	6.23	2374874	7.55	2430518	10.33	3450583	11.78
ZZZZZZ	695221	3.82	2777106	4.80	1606825	6.23	2608695	7.55	2626670	10.33	3828232	11.78
ZZZZZZ	722239	3.82	2855563	4.80	1614861	6.23	2632607	7.55	2666859	10.33	3807740	11.78
ZZZZZZ	622929	3.82	2526902	4.80	1467084	6.23	2366218	7.55	2368338	10.33	3426368	11.78
ZZZZZZ	620711	3.82	2529754	4.80	1478558	6.23	2397389	7.55	2411035	10.33	3571723	11.78
ZZZZZZ	744538	3.82	2884797	4.80	1638134	6.23	2716054	7.55	2784856	10.33	3341822	11.78
ZZZZZZ	765124	3.82	2987410	4.80	1689621	6.23	2763380	7.55	2788840	10.33	3286926	11.78
ZZZZZZ	669721	3.82	2627775	4.80	1479963	6.23	2419144	7.55	2460373	10.33	3352514	11.78
ZZZZZZ	718698	3.82	2909365	4.80	1681949	6.23	2654273	7.55	2658237	10.33	3603629	11.78
ZZZZZZ	688151	3.82	2730940	4.80	1599751	6.23	2584324	7.55	2595978	10.33	3405029	11.78
ZZZZZZ	669911	3.82	2651156	4.80	1541574	6.23	2492482	7.55	2517278	10.33	3412123	11.78
ZZZZZZ	660321	3.82	2641123	4.80	1524823	6.23	2478141	7.55	2489280	10.33	3328976	11.78
ZZZZZZ	665311	3.82	2691126	4.80	1545892	6.23	2512413	7.55	2521539	10.33	2889432 <sup>c</sup>	11.78
ZZZZZZ	689877	3.82	2805738	4.80	1625488	6.23	2656063	7.55	2630700	10.33	3037230 <sup>c</sup>	11.78
ZZZZZZ	675299	3.82	2650857	4.80	1516344	6.23	2479854	7.55	2607983	10.33	3063383 <sup>c</sup>	11.78
ZZZZZZ	639503	3.82	2512904	4.80	1413339	6.23	2353293	7.55	2414033	10.33	3018570 <sup>c</sup>	11.78

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

7.4.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12784  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW168-CC72	Injection Date:	08/06/12
Lab File ID:	W3636.D	Injection Time:	13:27
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

7.4.2  
7



# Semivolatile Internal Standard Area Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW169-CC72	Injection Date:	08/07/12
Lab File ID:	W3677.D	Injection Time:	07:52
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	1027123	3.82	3921337	4.80	2254134	6.23	3690573	7.55	3828401	10.33	5274554	11.78
Upper Limit <sup>a</sup>	2054246	4.32	7842674	5.30	4508268	6.73	7381146	8.05	7656802	10.83	10549108	12.28
Lower Limit <sup>b</sup>	513562	3.32	1960669	4.30	1127067	5.73	1845287	7.05	1914201	9.83	2637277	11.28

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MC12784-1	643439	3.82	2516268	4.80	1426910	6.22	2378429	7.55	2450632	10.33	3720381	11.78
MC12784-2	675445	3.82	2627686	4.80	1475817	6.22	2455961	7.55	2509180	10.33	3836876	11.78
MC12784-3	657861	3.82	2561579	4.80	1441362	6.22	2392782	7.55	2462335	10.33	3735190	11.78
MC12784-4	659769	3.82	2560479	4.80	1441011	6.23	2384883	7.55	2479644	10.33	3800217	11.78
ZZZZZZ	676655	3.82	2608170	4.80	1504666	6.22	2442812	7.55	2477446	10.33	3356295	11.78
ZZZZZZ	665147	3.82	2562771	4.80	1489948	6.23	2469378	7.55	2463824	10.33	3346855	11.78
ZZZZZZ	875971	3.82	3301897	4.80	1886806	6.23	3087276	7.55	3152656	10.33	4217277	11.78
OP29916-MB	684327	3.82	2676907	4.80	1494269	6.23	2472759	7.55	2565038	10.33	3749408	11.78
ZZZZZZ	604244	3.82	2398397	4.80	1350029	6.23	2208439	7.55	2261030	10.33	3317989	11.78
ZZZZZZ	599577	3.82	2398406	4.80	1335557	6.22	2235086	7.55	2300493	10.33	3111892	11.78
ZZZZZZ	615177	3.82	2434986	4.80	1368977	6.23	2282059	7.55	2361201	10.33	3279122	11.78
ZZZZZZ	627289	3.82	2498567	4.80	1407321	6.23	2318709	7.55	2382757	10.33	3288709	11.78
ZZZZZZ	637706	3.82	2539150	4.80	1425545	6.22	2354611	7.55	2393269	10.33	3460374	11.78
ZZZZZZ	677196	3.82	2601345	4.80	1488092	6.23	2429508	7.55	2492825	10.33	3313417	11.78
MC12811-2	667639	3.82	2601204	4.80	1490409	6.23	2426484	7.55	2452884	10.33	3205001	11.78
ZZZZZZ	656590	3.82	2554359	4.80	1475384	6.23	2404694	7.55	2441851	10.33	3256115	11.78
ZZZZZZ	688483	3.82	2675702	4.80	1542976	6.23	2534277	7.55	2559214	10.33	3378703	11.78

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.3

7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12784

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12784-1	F56596.D	43	33	75	74	72	53
MC12784-2	F56597.D	43	32	74	74	73	64
MC12784-3	F56598.D	43	30	75	75	73	86
MC12784-4	F56599.D	43	29	74	75	69	94
OP29915-BS	F56591.D	53	38	77	80	76	93
OP29915-MB	F56590.D	47	32	76	79	75	94
OP29915-MS	F56592.D	52	37	75	77	69	91
OP29915-MSD	F56593.D	53	38	82	84	77	100

<b>Surrogate Compounds</b>	<b>Recovery Limits</b>
----------------------------	------------------------

S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.5.1  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12784

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12784-1	W3678.D	77	69	66
MC12784-2	W3679.D	78	70	82
MC12784-3	W3680.D	81	71	109
MC12784-4	W3681.D	81	69	118
OP29916-BS	W3643.D	86	78	114
OP29916-MB	W3685.D	85	73	119
OP29916-MS	W3644.D	83	70	109
OP29916-MSD	W3645.D	89	77	122

**Surrogate Compounds**                      **Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.5.2  
7

## GC Volatiles

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## QC Data Summaries



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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MB	BK15933.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12784-1, MC12784-2, MC12784-3, MC12784-4, MC12784-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	94%	36-173%
460-00-4	Bromofluorobenzene (S)	113%	36-173%

8.1.1  
8

# Blank Spike Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-BS	BK15934.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples:

Method: SW846 8011

MC12784-1, MC12784-2, MC12784-3, MC12784-4, MC12784-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.077	108	60-140
106-93-4	1,2-Dibromoethane	0.071	0.072	101	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	75%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MS	BK15935.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
OP29955-MSD	BK15936.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
MC12879-7	BK15938.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12784-1, MC12784-2, MC12784-3, MC12784-4, MC12784-6

CAS No.	Compound	MC12879-7 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.071	0.070	99	0.071	0.072	101	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.071	0.069	97	0.071	0.070	99	1	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-7	Limits
460-00-4	Bromofluorobenzene (S)	86%	86%	95%	36-173%
460-00-4	Bromofluorobenzene (S)	97%	101%	113%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12784

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12784-1	BK15939.D	79	99
MC12784-2	BK15940.D	88	95
MC12784-3	BK15941.D	86	103
MC12784-4	BK15942.D	83	100
MC12784-6	BK15943.D	91	105
OP29955-BS	BK15934.D	75	85
OP29955-MB	BK15933.D	94	113
OP29955-MS	BK15935.D	86	97
OP29955-MSD	BK15936.D	86	101

Surrogate Compounds                      Recovery Limits

S1 = Bromofluorobenzene (S)                      36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

8.4.1

8



# GC Surrogate Retention Time Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15926.D	Injection Time:	03:45
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15927.D	08/10/12	04:10	5.28	4.40
ZZZZZZ	BK15928.D	08/10/12	04:34	5.28	4.40
ZZZZZZ	BK15929.D	08/10/12	04:59	5.28	4.40
ZZZZZZ	BK15930.D	08/10/12	05:23	5.28	4.40
ZZZZZZ	BK15931.D	08/10/12	05:48	5.28	4.40
ZZZZZZ	BK15932.D	08/10/12	06:12	5.28	4.40
OP29955-MB	BK15933.D	08/10/12	06:37	5.28	4.40
OP29955-BS	BK15934.D	08/10/12	07:01	5.28	4.40
OP29955-MS	BK15935.D	08/10/12	07:26	5.28	4.40
OP29955-MSD	BK15936.D	08/10/12	07:50	5.28	4.40

**Surrogate Compounds**

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12784  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15937.D	Injection Time:	08:15
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
MC12879-7	BK15938.D	08/10/12	08:39	5.28	4.40
MC12784-1	BK15939.D	08/10/12	09:03	5.28	4.40
MC12784-2	BK15940.D	08/10/12	09:27	5.28	4.40
MC12784-3	BK15941.D	08/10/12	09:52	5.28	4.40
MC12784-4	BK15942.D	08/10/12	10:16	5.28	4.40
MC12784-6	BK15943.D	08/10/12	10:40	5.28	4.40
ZZZZZZ	BK15944.D	08/10/12	11:04	5.28	4.40
ZZZZZZ	BK15945.D	08/10/12	11:29	5.28	4.40
ZZZZZZ	BK15946.D	08/10/12	11:53	5.28	4.40
ZZZZZZ	BK15947.D	08/10/12	12:17	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

### Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12833

Sampling Date: 08/02/12

### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 95



Test results contained within this data package meet the requirements  
of the National Environmental Laboratory Accreditation Program  
and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791)  
NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220)  
DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



ACCUTEST

October 21, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12833

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION,  
TESTING AND CERTIFICATION COMPANY.

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## Sample Summary

Shell Oil

Job No: MC12833  
URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC12833-1	08/02/12	00:00	LRSJ	08/03/12	AQ Trip Blank Water	TB-080212-ST-W
MC12833-2	08/02/12	00:00	LRSJ	08/03/12	AQ Trip Blank Water	TB-080212-HCL-W
MC12833-3	08/02/12	14:15	LRSJ	08/03/12	AQ Ground Water	T12-ROX-080212
MC12833-4	08/02/12	16:20	LRSJ	08/03/12	AQ Ground Water	P59-ROX-080212
MC12833-5	08/02/12	00:00	LRSJ	08/03/12	AQ Trip Blank Water	TB-080212-ST-R
MC12833-6	08/02/12	00:00	LRSJ	08/03/12	AQ Trip Blank Water	TB-080212-HCL-R
MC12833-7	08/02/12	12:35	LRSJ	08/03/12	AQ Ground Water	MW6D-ROX-080212
MC12833-8	08/02/12	14:30	LRSJ	08/03/12	AQ Ground Water	P54-ROX-080212
MC12833-9	08/02/12	14:50	LRSJ	08/03/12	AQ Equipment Blank	P54-ROX-080212-EB

# SAMPLE DELIVERY GROUP CASE NARRATIVE



**Client:** She O

**Job No** MC 2833

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 10/21/2016 6:23:56 P

5 Sample(s), 4 Trip Blank(s) and 0 Field Blank(s) were collected on 08/02/2016 and were received at SGS Accutest New England on 08/03/2016 properly preserved, at 2-7 Deg C and intact. These Samples received a job number of MC 2833. Assignment of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Chlorohexane, Benzene, D-benz(a,h)acridene, Indene and Quinoline were searched in the library search and reported on if detections were found.

Except as noted below, all method specified calibration and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

<b>Matrix:</b> AQ	<b>Batch ID:</b> MSV439
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specification criteria.
- Sample(s) MC 2833-8MS, MC 2833-8MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Acrylonitrile, 2,2-Dichloropropane are out of control limits.
- Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Acrylonitrile are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether are out of control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for MSD for 2-Chloroethyl vinyl ether are out of control limits for sample MC 2833-8MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC 2833-8MS for Acrylonitrile: Out of control limits. Associated samples are non-detect for this compound.
- MC 2833-9 for Acetone: In-tube Calibration Verification out of acceptance criteria. Sample result may be biased high.
- MSV439-BS for Acrylonitrile: Out of control limits. Associated samples are non-detect for this compound.

## Extractables by GCMS By Method SW846 8270C

<b>Matrix:</b> AQ	<b>Batch ID:</b> OP29949
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- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC 2879-4MS, MC 2879-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specification criteria.
- Blank Spike Recovery(s) for Aniline, Hexachlorocyclopentadiene are out of control limits.
- Matrix Spike Recovery(s) for Aniline, Hexachlorocyclopentadiene are out of control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Aniline, Hexachlorocyclopentadiene are out of control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for Hexachloroethane, Hexachlorocyclopentadiene are out of control limits for sample OP29949-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- OP29949-MS for Aniline: Out of control limits. Blank Spike meets program technical requirements.
- OP29949-MS for Hexachlorocyclopentadiene: Out of control limits. Blank Spike meets program technical requirements.
- OP29949-MSD for Hexachlorocyclopentadiene: Out of control limits. Blank Spike meets program technical requirements.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ

**Batch ID:** OP29950

- All samples were extracted within the recommended method holding time
- All samples were analyzed within the recommended method holding time
- Sample(s) MC 2879-5MS, MC 2879-5MSD were used as the QC samples indicated
- All method blanks for this batch meet method specification
- RPD(s) for MSD for 1-Methylnaphthalene are outside control limits for sample OP29950-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity
- OP29950-BS- has internal standard outside control limits. Individual spike recoveries within acceptance criteria

## Volatiles by GC By Method SW846 8011

**Matrix:** AQ

**Batch ID:** OP29955

- All samples were extracted within the recommended method holding time
- All samples were analyzed within the recommended method holding time
- All method blanks for this batch meet method specification
- Sample(s) MC 2879-7MS, MC 2879-7MSD were used as the QC samples indicated

SGS Accutest New England certifies that all analyses were performed within method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 2833)



## Summary of Hits

Job Number: MC12833  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/02/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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MC12833-1 TB-080212-ST-W

No hits reported in this sample.

MC12833-2 TB-080212-HCL-W

No hits reported in this sample.

MC12833-3 T12-ROX-080212

Benzene	1640	5.0	2.4	ug/l	SW846 8260B
Ethylbenzene	573	10	5.1	ug/l	SW846 8260B
Isopropylbenzene	29.7 J	50	5.0	ug/l	SW846 8260B
n-Propylbenzene	48.6 J	50	5.8	ug/l	SW846 8260B
Toluene	197	10	5.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	403	50	3.5	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	47.4 J	50	4.7	ug/l	SW846 8260B
m,p-Xylene	1320	10	7.3	ug/l	SW846 8260B
o-Xylene	70.9	10	5.8	ug/l	SW846 8260B
Xylene (total)	1390	10	5.8	ug/l	SW846 8260B
2,4-Dimethylphenol	15.3	11	3.0	ug/l	SW846 8270C
2-Methylphenol	2.1 J	11	0.66	ug/l	SW846 8270C
3&4-Methylphenol	2.7 J	11	0.82	ug/l	SW846 8270C
Phenol	42.0	5.4	1.0	ug/l	SW846 8270C
Dibenzofuran	0.30 J	2.2	0.23	ug/l	SW846 8270C
Acenaphthene	0.44	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene	0.082 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene	0.10 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluoranthene	0.046 J	0.11	0.035	ug/l	SW846 8270C BY SIM
Fluorene	0.29	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	19.9	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	29.4	0.22	0.056	ug/l	SW846 8270C BY SIM
Naphthalene	62.5	0.11	0.039	ug/l	SW846 8270C BY SIM
Phenanthrene	0.89	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene	0.062 J	0.11	0.039	ug/l	SW846 8270C BY SIM

MC12833-4 P59-ROX-080212

Benzene	11000	500	240	ug/l	SW846 8260B
Ethylbenzene	1740	20	10	ug/l	SW846 8260B
Isopropylbenzene	45.2 J	100	10	ug/l	SW846 8260B
n-Propylbenzene	97.4 J	100	12	ug/l	SW846 8260B
Toluene	506	20	10	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	563	100	6.9	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	158	100	9.3	ug/l	SW846 8260B

# Summary of Hits

Job Number: MC12833  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/02/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
m,p-Xylene		4350		20	15	ug/l	SW846 8260B
o-Xylene		376		20	12	ug/l	SW846 8260B
Xylene (total)		4730		20	12	ug/l	SW846 8260B
2,4-Dimethylphenol		8.8 J		11	2.9	ug/l	SW846 8270C
2-Methylphenol		1.8 J		11	0.64	ug/l	SW846 8270C
3&4-Methylphenol		3.2 J		11	0.79	ug/l	SW846 8270C
Phenol		41.9		5.3	0.98	ug/l	SW846 8270C
Dibenzofuran		0.36 J		2.1	0.23	ug/l	SW846 8270C
Acenaphthene		0.42		0.11	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.10 J		0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.14		0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.21		0.053	0.032	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.036 J		0.11	0.018	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.047 J		0.053	0.025	ug/l	SW846 8270C BY SIM
Fluoranthene		0.15		0.11	0.034	ug/l	SW846 8270C BY SIM
Fluorene		0.48		0.11	0.049	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		13.6		0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		20.7		0.21	0.055	ug/l	SW846 8270C BY SIM
Naphthalene		88.6		0.11	0.038	ug/l	SW846 8270C BY SIM
Phenanthrene		1.0		0.053	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.21		0.11	0.037	ug/l	SW846 8270C BY SIM

MC12833-5 TB-080212-ST-R

No hits reported in this sample.

MC12833-6 TB-080212-HCL-R

No hits reported in this sample.

MC12833-7 MW6D-ROX-080212

Benzene	0.68	0.50	0.24	ug/l	SW846 8260B
Diethyl phthalate	0.22 J	5.1	0.19	ug/l	SW846 8270C

MC12833-8 P54-ROX-080212

No hits reported in this sample.

MC12833-9 P54-ROX-080212-EB

Acetone <sup>a</sup>	7.7	5.0	3.0	ug/l	SW846 8260B
Benzyl Alcohol	0.43 J	10	0.26	ug/l	SW846 8270C
Naphthalene	0.048 J	0.10	0.036	ug/l	SW846 8270C BY SIM

## Summary of Hits

Job Number: MC12833

Account: Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Collected: 08/02/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
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(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

<b>Client Sample ID:</b> TB-080212-ST-W	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-1	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15944.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.9 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	109%		36-173%
460-00-4	Bromofluorobenzene (S)	91%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b>	TB-080212-HCL-W	<b>Date Sampled:</b>	08/02/12
<b>Lab Sample ID:</b>	MC12833-2	<b>Date Received:</b>	08/03/12
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B	<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10555.D	1	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080212-HCL-W	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-2	Date Received:	08/03/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080212-HCL-W		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-2		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	T12-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-3	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10562.D	10	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	30	ug/l	
107-02-8	Acrolein	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	1640	5.0	2.4	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	T12-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-3	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	573	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	29.7	50	5.0	ug/l	J
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	48.6	50	5.8	ug/l	J
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	197	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	403	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	47.4	50	4.7	ug/l	J
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	1320	10	7.3	ug/l	
95-47-6	o-Xylene	70.9	10	5.8	ug/l	
1330-20-7	Xylene (total)	1390	10	5.8	ug/l	

ND = Not detected MDL = Method Detection Limit

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J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> T12-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-3		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	T12-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-3	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3794.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.44	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.41	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.41	ug/l	
105-67-9	2,4-Dimethylphenol	15.3	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.4	ug/l	
95-48-7	2-Methylphenol	2.1	11	0.66	ug/l	J
	3&4-Methylphenol	2.7	11	0.82	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.69	ug/l	
108-95-2	Phenol	42.0	5.4	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.69	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.41	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.23	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.97	ug/l	
132-64-9	Dibenzofuran	0.30	2.2	0.23	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.26	ug/l	

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## Report of Analysis

<b>Client Sample ID:</b> T12-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-3		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.41	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	36%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	105%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
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J = Indicates an estimated value  
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 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> T12-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-3	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9086.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.44	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.082	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.10	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	0.046	0.11	0.035	ug/l	J
86-73-7	Fluorene	0.29	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	19.9	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	29.4	0.22	0.056	ug/l	
91-20-3	Naphthalene	62.5	0.11	0.039	ug/l	
85-01-8	Phenanthrene	0.89	0.054	0.014	ug/l	
129-00-0	Pyrene	0.062	0.11	0.039	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	99%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> T12-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-3	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15945.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

Run #	Initial Volume	Final Volume
Run #1	33.4 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.016	0.014	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.016	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		36-173%
460-00-4	Bromofluorobenzene (S)	127%		36-173%

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 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
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 N = Indicates presumptive evidence of a compound

4.3  
4

## Report of Analysis

Client Sample ID:	P59-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-4	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10563.D	20	08/16/12	AMY	n/a	n/a	MSV439
Run #2	V10559.D	1000	08/16/12	AMY	n/a	n/a	MSV439

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	60	ug/l	
107-02-8	Acrolein	ND	500	200	ug/l	
107-13-1	Acrylonitrile	ND	100	65	ug/l	
71-43-2	Benzene	11000 <sup>a</sup>	500	240	ug/l	
108-86-1	Bromobenzene	ND	100	12	ug/l	
74-97-5	Bromochloromethane	ND	100	24	ug/l	
75-27-4	Bromodichloromethane	ND	20	12	ug/l	
75-25-2	Bromoform	ND	20	16	ug/l	
74-83-9	Bromomethane	ND	40	20	ug/l	
78-93-3	2-Butanone (MEK)	ND	100	48	ug/l	
104-51-8	n-Butylbenzene	ND	100	14	ug/l	
135-98-8	sec-Butylbenzene	ND	100	11	ug/l	
98-06-6	tert-Butylbenzene	ND	100	13	ug/l	
75-15-0	Carbon disulfide	ND	100	12	ug/l	
56-23-5	Carbon tetrachloride	ND	20	17	ug/l	
108-90-7	Chlorobenzene	ND	20	9.4	ug/l	
75-00-3	Chloroethane	ND	40	10	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	100	16	ug/l	
67-66-3	Chloroform	ND	20	9.9	ug/l	
74-87-3	Chloromethane	ND	40	15	ug/l	
95-49-8	o-Chlorotoluene	ND	100	13	ug/l	
106-43-4	p-Chlorotoluene	ND	100	9.7	ug/l	
124-48-1	Dibromochloromethane	ND	20	11	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	19	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	9.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	40	35	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	12	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	13	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	8.2	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	13	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	19	ug/l	

ND = Not detected MDL = Method Detection Limit

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## Report of Analysis

Client Sample ID:	P59-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-4	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	40	14	ug/l	
142-28-9	1,3-Dichloropropane	ND	100	13	ug/l	
594-20-7	2,2-Dichloropropane	ND	100	31	ug/l	
563-58-6	1,1-Dichloropropene	ND	100	18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	9.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.9	ug/l	
123-91-1	1,4-Dioxane	ND	500	300	ug/l	
97-63-2	Ethyl methacrylate	ND	100	16	ug/l	
100-41-4	Ethylbenzene	1740	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	100	41	ug/l	
591-78-6	2-Hexanone	ND	100	39	ug/l	
98-82-8	Isopropylbenzene	45.2	100	10	ug/l	J
99-87-6	p-Isopropyltoluene	ND	100	11	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	20	8.2	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	100	58	ug/l	
74-95-3	Methylene bromide	ND	100	22	ug/l	
75-09-2	Methylene chloride	ND	40	17	ug/l	
103-65-1	n-Propylbenzene	97.4	100	12	ug/l	J
100-42-5	Styrene	ND	100	9.1	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	100	11	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	12	ug/l	
127-18-4	Tetrachloroethene	ND	20	8.4	ug/l	
108-88-3	Toluene	506	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	100	21	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	100	26	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	16	ug/l	
75-69-4	Trichlorofluoromethane	ND	20	5.7	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	100	17	ug/l	
95-63-6	1,2,4-Trimethylbenzene	563	100	6.9	ug/l	
108-67-8	1,3,5-Trimethylbenzene	158	100	9.3	ug/l	
108-05-4	Vinyl Acetate	ND	100	20	ug/l	
75-01-4	Vinyl chloride	ND	20	13	ug/l	
	m,p-Xylene	4350	20	15	ug/l	
95-47-6	o-Xylene	376	20	12	ug/l	
1330-20-7	Xylene (total)	4730	20	12	ug/l	

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## Report of Analysis

<b>Client Sample ID:</b> P59-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-4		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	98%	70-130%
2037-26-5	Toluene-D8	98%	99%	70-130%
460-00-4	4-Bromofluorobenzene	96%	97%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P59-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-4	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3795.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	8.8	11	2.9	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.3	ug/l	
95-48-7	2-Methylphenol	1.8	11	0.64	ug/l	J
	3&4-Methylphenol	3.2	11	0.79	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.67	ug/l	
108-95-2	Phenol	41.9	5.3	0.98	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.37	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.94	ug/l	
132-64-9	Dibenzofuran	0.36	2.1	0.23	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P59-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-4		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	24%		15-110%
4165-62-2	Phenol-d5	30%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P59-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-4	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9087.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
Run #2							

Run #	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.42	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	0.10	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.14	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	0.21	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	0.036	0.11	0.018	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.047	0.053	0.025	ug/l	J
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	0.15	0.11	0.034	ug/l	
86-73-7	Fluorene	0.48	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.048	ug/l	
90-12-0	1-Methylnaphthalene	13.6	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	20.7	0.21	0.055	ug/l	
91-20-3	Naphthalene	88.6	0.11	0.038	ug/l	
85-01-8	Phenanthrene	1.0	0.053	0.013	ug/l	
129-00-0	Pyrene	0.21	0.11	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	59%		30-130%
1718-51-0	Terphenyl-d14	88%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P59-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-4	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15946.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.0 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	100%		36-173%
460-00-4	Bromofluorobenzene (S)	143%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> TB-080212-ST-R	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-5	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15947.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	95%		36-173%
460-00-4	Bromofluorobenzene (S)	117%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> TB-080212-HCL-R	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-6	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10556.D	1	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	TB-080212-HCL-R	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-6	Date Received:	08/03/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080212-HCL-R	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-6	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6D-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-7	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10560.D	1	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.68	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW6D-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-7	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6D-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-7		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6D-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-7	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3796.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.1	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6D-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-7		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.22	5.1	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.1	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	79%		15-110%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	97%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW6D-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-7	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9088.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	96%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW6D-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-7	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15949.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.3 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	87%		36-173%
460-00-4	Bromofluorobenzene (S)	104%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	P54-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-8	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10561.D	1	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P54-ROX-080212	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-8	Date Received:	08/03/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-8		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-8	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3797.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.3	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.80	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	ND	5.3	0.99	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.95	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-8		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.63	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	68%		15-110%
4165-60-0	Nitrobenzene-d5	59%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-8	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9089.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
Run #2							

Run #	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.053	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.055	ug/l	
91-20-3	Naphthalene	ND	0.11	0.038	ug/l	
85-01-8	Phenanthrene	ND	0.053	0.013	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	93%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-8	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15950.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.8 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	93%		36-173%
460-00-4	Bromofluorobenzene (S)	107%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	P54-ROX-080212-EB	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-9	Date Received:	08/03/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10557.D	1	08/16/12	AMY	n/a	n/a	MSV439
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	7.7	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P54-ROX-080212-EB	Date Sampled:	08/02/12
Lab Sample ID:	MC12833-9	Date Received:	08/03/12
Matrix:	AQ - Equipment Blank	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212-EB		<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-9		<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Equipment Blank		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212-EB	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-9	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3798.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	0.43	10	0.26	ug/l	J
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212-EB	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-9	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	51%		15-110%
4165-62-2	Phenol-d5	34%		15-110%
118-79-6	2,4,6-Tribromophenol	84%		15-110%
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	106%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212-EB	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-9	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9090.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	0.048	0.10	0.036	ug/l	J
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	102%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.9

## Report of Analysis

<b>Client Sample ID:</b> P54-ROX-080212-EB	<b>Date Sampled:</b> 08/02/12
<b>Lab Sample ID:</b> MC12833-9	<b>Date Received:</b> 08/03/12
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15951.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
Run #2							

Run #	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	100%		36-173%
460-00-4	Bromofluorobenzene (S)	116%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.9  
4

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

Shell Oil Products Chain Of Custody Record



XENCO  
 CALSCEC  
 OTHER  
 SPL

Lab Vendor # \_\_\_\_\_

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SDS/CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Erik Arthur

INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0

DATE: 8/2/12

PO # \_\_\_\_\_ SAP # \_\_\_\_\_

State: IL Global ID No: \_\_\_\_\_

3 4 0 0 6 1

PAGE: 1 of 1

BACKLOG COMPANY: URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

PROJECT CONTACT (Hardcopy or PDF Report to): Erik Arthur

PHONE: 314-285-1553 FAX: 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (10 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL #  OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT °C: Cooler #1 \_\_\_\_\_ Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES:  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

8776 ADDRESS (Street and City): 800 South Central Ave; ROXANA

CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00008

LAB USE ONLY: MC12833

SAMPLE NAME(S) FROM: L. Mathraw, S. Jansen, S. Moringly, C. Williams

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	FIELD NOTES:
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER							
-1	TB-080212-ST-W	8/2/12	00:00	Water					X	2	X					
-2	TB-080212-HCL-W		00:00		X					2	X					
-3	TB-ROX-080212		14:15		X		X	X		6	X	X	X			
-4	PS1-ROX-080212		16:20		X		X	X		6	X	X	X			
-5	TB-080212-ST-R		00:00					X		2	X					
-6	TB-080212-HCL-R		00:00		X					2	X					16A, 4G6
-7	MWLD-ROX-080212		12:35		X		X	X		6	X	X	X			
-8	PS4-ROX-080212		14:30		X		X	X		6	X	X	X			
-9	PS4-ROX-080212 EB		14:50		X		X	X		6	X	X	X			

Released by (Signature): [Signature]

Received by (Signature): [Signature]

Date: 8/2/12 Time: 1900

Released by (Signature): [Signature]

Received by (Signature): [Signature]

Date: 8-3-12 Time: 930

Released by (Signature): [Signature]

Received by (Signature): [Signature]

Date: \_\_\_\_\_ Time: \_\_\_\_\_

2.7 - 2.3

5.1  
5

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC12833      **Client:** URS      **Immediate Client Services Action Required:** No  
**Date / Time Received:** 8/3/2012      **Delivery Method:** \_\_\_\_\_      **Client Service Action Required at Login:** No  
**Project:** 900 SOUTH CENTRAL ROX      **No. Coolers:** 2      **Airbill #'s:** \_\_\_\_\_

<u>Cooler Security</u>		<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Cooler Temperature</u>		<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Cooler temp verification:	Infrared gun		
3. Cooler media:	Ice (bag)		

<u>Quality Control Preservation</u>			
	<u>Y</u>	<u>or</u>	<u>N</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>		<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<u>Sample Integrity - Condition</u>		<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>			
	<u>Y</u>	<u>or</u>	<u>N</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

5.1  
5

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12833

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12833-1 Collected: 02-AUG-12 00:00 By: LRSJ Received: 03-AUG-12 By: TB-080212-ST-W						
MC12833-1	SW846 8011	10-AUG-12 11:04	AP	08-AUG-12 SC		V8011SL
MC12833-2 Collected: 02-AUG-12 00:00 By: LRSJ Received: 03-AUG-12 By: TB-080212-HCL-W						
MC12833-2	SW846 8260B	16-AUG-12 08:58	AMY			V8260SL+
MC12833-3 Collected: 02-AUG-12 14:15 By: LRSJ Received: 03-AUG-12 By: T12-ROX-080212						
MC12833-3	SW846 8270C BY SIM	08-AUG-12 17:18	NS	07-AUG-12 SC		B8270SIMP AH
MC12833-3	SW846 8270C	09-AUG-12 12:46	KR	07-AUG-12 SC		AB8270SL+
MC12833-3	SW846 8011	10-AUG-12 11:29	AP	08-AUG-12 SC		V8011SL
MC12833-3	SW846 8260B	16-AUG-12 12:23	AMY			V8260SL+
MC12833-4 Collected: 02-AUG-12 16:20 By: LRSJ Received: 03-AUG-12 By: P59-ROX-080212						
MC12833-4	SW846 8270C BY SIM	08-AUG-12 17:41	NS	07-AUG-12 SC		B8270SIMP AH
MC12833-4	SW846 8270C	09-AUG-12 13:08	KR	07-AUG-12 SC		AB8270SL+
MC12833-4	SW846 8011	10-AUG-12 11:53	AP	08-AUG-12 SC		V8011SL
MC12833-4	SW846 8260B	16-AUG-12 10:56	AMY			V8260SL+
MC12833-4	SW846 8260B	16-AUG-12 12:52	AMY			V8260SL+
MC12833-5 Collected: 02-AUG-12 00:00 By: LRSJ Received: 03-AUG-12 By: TB-080212-ST-R						
MC12833-5	SW846 8011	10-AUG-12 12:17	AP	08-AUG-12 SC		V8011SL
MC12833-6 Collected: 02-AUG-12 00:00 By: LRSJ Received: 03-AUG-12 By: TB-080212-HCL-R						
MC12833-6	SW846 8260B	16-AUG-12 09:27	AMY			V8260SL+
MC12833-7 Collected: 02-AUG-12 12:35 By: LRSJ Received: 03-AUG-12 By: MW6D-ROX-080212						

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12833

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12833-7	SW846 8270C	08-AUG-12 18:04	NS	07-AUG-12 SC		B8270SIMP
MC12833-7	SW846 8270C	09-AUG-12 13:30	KR	07-AUG-12 SC		AB8270SL +
MC12833-7	SW846 8011	10-AUG-12 13:06	AP	08-AUG-12 SC		V8011SL
MC12833-7	SW846 8260B	16-AUG-12 11:25	AMY			V8260SL +
MC12833-8 Collected: 02-AUG-12 14:30 By: LRSJ Received: 03-AUG-12 By: P54-ROX-080212						
MC12833-8	SW846 8270C	08-AUG-12 18:26	NS	07-AUG-12 SC		B8270SIMP
MC12833-8	SW846 8270C	09-AUG-12 13:53	KR	07-AUG-12 SC		AB8270SL +
MC12833-8	SW846 8011	10-AUG-12 13:30	AP	08-AUG-12 SC		V8011SL
MC12833-8	SW846 8260B	16-AUG-12 11:54	AMY			V8260SL +
MC12833-9 Collected: 02-AUG-12 14:50 By: LRSJ Received: 03-AUG-12 By: P54-ROX-080212-EB						
MC12833-9	SW846 8270C	08-AUG-12 18:49	NS	07-AUG-12 SC		B8270SIMP
MC12833-9	SW846 8270C	09-AUG-12 14:15	KR	07-AUG-12 SC		AB8270SL +
MC12833-9	SW846 8011	10-AUG-12 13:54	AP	08-AUG-12 SC		V8011SL
MC12833-9	SW846 8260B	16-AUG-12 09:57	AMY			V8260SL +

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12833  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/03/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12833-1.1	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-1.1	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-2.2	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-2.2	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-2.2	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-2.2	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-2.2	Scott Parsick		09/19/12 12:19	Disposed
MC12833-3.2	Walk In Ref #22	Nick Krasinski	08/07/12 14:35	Retrieve from Storage
MC12833-3.2	Nick Krasinski		08/07/12 22:07	Depleted
MC12833-3.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-3.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-3.6	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-3.6	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-3.6	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-3.6	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-3.6	Scott Parsick		09/19/12 12:19	Disposed
MC12833-4.2	Walk In Ref #22	Nick Krasinski	08/07/12 14:35	Retrieve from Storage
MC12833-4.2	Nick Krasinski		08/07/12 22:07	Depleted
MC12833-4.4	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-4.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-4.6	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-4.6	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-4.6	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-4.6	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-4.6	Scott Parsick		09/19/12 12:19	Disposed
MC12833-5.1	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-5.1	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-6.1	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-6.1	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-6.1	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-6.1	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-6.1	Scott Parsick		09/19/12 12:19	Disposed
MC12833-7.2	Walk In Ref #22	Nick Krasinski	08/07/12 14:35	Retrieve from Storage
MC12833-7.2	Nick Krasinski		08/07/12 22:07	Depleted

5.3  
5

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12833  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/03/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12833-7.4	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-7.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-7.5	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-7.5	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-7.5	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-7.5	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-7.5	Scott Parsick		09/19/12 12:19	Disposed
MC12833-8.1	Walk In Ref #22	Nick Krasinski	08/07/12 14:35	Retrieve from Storage
MC12833-8.1	Nick Krasinski		08/07/12 22:07	Depleted
MC12833-8.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-8.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-8.6	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-8.6	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-8.6	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-8.6	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-8.6	Scott Parsick		09/19/12 12:19	Disposed
MC12833-9.2	Walk In Ref #22	Nick Krasinski	08/07/12 14:35	Retrieve from Storage
MC12833-9.2	Nick Krasinski		08/07/12 22:07	Depleted
MC12833-9.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12833-9.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-9.4	VOC Ref #4	Nick Krasinski	08/08/12 21:36	Retrieve from Storage
MC12833-9.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12833-9.5	VOC Ref #4	Amy Min Yang	08/16/12 08:06	Retrieve from Storage
MC12833-9.5	Amy Min Yang	GCMSV	08/16/12 08:06	Load on Instrument
MC12833-9.5	GCMSV	Amy Min Yang	08/16/12 11:39	Unload from Instrument
MC12833-9.5	Amy Min Yang	VOC Ref #4	08/16/12 11:39	Return to Storage
MC12833-9.5	Scott Parsick		09/19/12 12:19	Disposed

5.3  
5

**GC/MS Volatiles**

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**QC Data Summaries**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-MB	V10554.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

6.1.1  
6



# Method Blank Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-MB	V10554.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12833  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-MB	V10554.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-BS	V10552.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	56.7	113	70-130
107-02-8	Acrolein	250	175	70	70-130
107-13-1	Acrylonitrile	50	248	496* a	70-130
71-43-2	Benzene	50	46.1	92	70-130
108-86-1	Bromobenzene	50	48.1	96	70-130
74-97-5	Bromochloromethane	50	47.4	95	70-130
75-27-4	Bromodichloromethane	50	45.5	91	70-130
75-25-2	Bromoform	50	43.0	86	70-130
74-83-9	Bromomethane	50	52.6	105	70-130
78-93-3	2-Butanone (MEK)	50	46.7	93	70-130
104-51-8	n-Butylbenzene	50	49.0	98	70-130
135-98-8	sec-Butylbenzene	50	52.5	105	70-130
98-06-6	tert-Butylbenzene	50	51.8	104	70-130
75-15-0	Carbon disulfide	50	56.2	112	70-130
56-23-5	Carbon tetrachloride	50	44.7	89	70-130
108-90-7	Chlorobenzene	50	49.2	98	70-130
75-00-3	Chloroethane	50	53.2	106	70-130
110-75-8	2-Chloroethyl vinyl ether	50	48.4	97	70-130
67-66-3	Chloroform	50	49.2	98	70-130
74-87-3	Chloromethane	50	50.6	101	70-130
95-49-8	o-Chlorotoluene	50	48.5	97	70-130
106-43-4	p-Chlorotoluene	50	50.1	100	70-130
124-48-1	Dibromochloromethane	50	40.6	81	70-130
95-50-1	1,2-Dichlorobenzene	50	49.9	100	70-130
541-73-1	1,3-Dichlorobenzene	50	48.7	97	70-130
106-46-7	1,4-Dichlorobenzene	50	45.2	90	70-130
75-71-8	Dichlorodifluoromethane	50	54.2	108	70-130
75-34-3	1,1-Dichloroethane	50	47.6	95	70-130
107-06-2	1,2-Dichloroethane	50	45.3	91	70-130
75-35-4	1,1-Dichloroethene	50	55.3	111	70-130
156-59-2	cis-1,2-Dichloroethene	50	48.0	96	70-130
156-60-5	trans-1,2-Dichloroethene	50	48.9	98	70-130
78-87-5	1,2-Dichloropropane	50	46.2	92	70-130
142-28-9	1,3-Dichloropropane	50	45.3	91	70-130
594-20-7	2,2-Dichloropropane	50	28.7	57* b	70-130
563-58-6	1,1-Dichloropropene	50	49.9	100	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-BS	V10552.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	36.1	72	70-130
10061-02-6	trans-1,3-Dichloropropene	50	36.2	72	70-130
123-91-1	1,4-Dioxane	250	214	86	70-130
97-63-2	Ethyl methacrylate	50	41.7	83	77-137
100-41-4	Ethylbenzene	50	48.2	96	70-130
87-68-3	Hexachlorobutadiene	50	42.3	85	70-130
591-78-6	2-Hexanone	50	46.5	93	70-130
98-82-8	Isopropylbenzene	50	52.0	104	70-130
99-87-6	p-Isopropyltoluene	50	49.2	98	70-130
1634-04-4	Methyl Tert Butyl Ether	50	45.2	90	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	44.1	88	70-130
74-95-3	Methylene bromide	50	48.7	97	70-130
75-09-2	Methylene chloride	50	47.5	95	70-130
103-65-1	n-Propylbenzene	50	52.0	104	70-130
100-42-5	Styrene	50	48.7	97	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	42.1	84	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	39.6	79	70-130
127-18-4	Tetrachloroethene	50	44.8	90	70-130
108-88-3	Toluene	50	46.4	93	70-130
87-61-6	1,2,3-Trichlorobenzene	50	45.6	91	70-130
120-82-1	1,2,4-Trichlorobenzene	50	44.8	90	70-130
71-55-6	1,1,1-Trichloroethane	50	47.9	96	70-130
79-00-5	1,1,2-Trichloroethane	50	46.9	94	70-130
79-01-6	Trichloroethene	50	51.0	102	70-130
75-69-4	Trichlorofluoromethane	50	51.9	104	70-130
96-18-4	1,2,3-Trichloropropane	50	39.9	80	70-130
95-63-6	1,2,4-Trimethylbenzene	50	45.7	91	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.3	93	70-130
108-05-4	Vinyl Acetate	50	35.5	71	70-130
75-01-4	Vinyl chloride	50	48.3	97	70-130
	m,p-Xylene	100	96.3	96	70-130
95-47-6	o-Xylene	50	50.0	100	70-130
1330-20-7	Xylene (total)	150	146	97	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12833  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV439-BS	V10552.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12833-8MS	V10564.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8MSD	V10565.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8	V10561.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12833-8 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	250	197	79	250	201	80	2	70-130/30
107-02-8	Acrolein	ND	1250	1090	87	1250	1100	88	1	70-130/30
107-13-1	Acrylonitrile	ND	250	1310	524* a	250	1320	528* a	1	70-130/30
71-43-2	Benzene	ND	250	237	95	250	241	96	2	70-130/30
108-86-1	Bromobenzene	ND	250	244	98	250	244	98	0	70-130/30
74-97-5	Bromochloromethane	ND	250	243	97	250	243	97	0	70-130/30
75-27-4	Bromodichloromethane	ND	250	224	90	250	232	93	4	70-130/30
75-25-2	Bromoform	ND	250	205	82	250	209	84	2	70-130/30
74-83-9	Bromomethane	ND	250	292	117	250	294	118	1	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	206	82	250	214	86	4	70-130/30
104-51-8	n-Butylbenzene	ND	250	261	104	250	264	106	1	70-130/30
135-98-8	sec-Butylbenzene	ND	250	273	109	250	276	110	1	70-130/30
98-06-6	tert-Butylbenzene	ND	250	267	107	250	269	108	1	70-130/30
75-15-0	Carbon disulfide	ND	250	277	111	250	296	118	7	70-130/30
56-23-5	Carbon tetrachloride	ND	250	224	90	250	236	94	5	70-130/30
108-90-7	Chlorobenzene	ND	250	251	100	250	254	102	1	70-130/30
75-00-3	Chloroethane	ND	250	296	118	250	299	120	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	250	51.8	21* b	250	24.6	10* b	71* c	70-130/30
67-66-3	Chloroform	ND	250	253	101	250	255	102	1	70-130/30
74-87-3	Chloromethane	ND	250	281	112	250	286	114	2	70-130/30
95-49-8	o-Chlorotoluene	ND	250	251	100	250	252	101	0	70-130/30
106-43-4	p-Chlorotoluene	ND	250	259	104	250	261	104	1	70-130/30
124-48-1	Dibromochloromethane	ND	250	197	79	250	203	81	3	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	252	101	250	256	102	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	249	100	250	252	101	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	231	92	250	233	93	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	298	119	250	292	117	2	70-130/30
75-34-3	1,1-Dichloroethane	ND	250	246	98	250	248	99	1	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	229	92	250	232	93	1	70-130/30
75-35-4	1,1-Dichloroethene	ND	250	291	116	250	293	117	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	250	247	99	250	250	100	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	255	102	250	257	103	1	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	233	93	250	238	95	2	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	225	90	250	229	92	2	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	232	93	250	249	100	7	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	260	104	250	265	106	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12833-8MS	V10564.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8MSD	V10565.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8	V10561.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12833-8 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	250	189	76	250	196	78	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	250	186	74	250	194	78	4	70-130/30
123-91-1	1,4-Dioxane	ND	1250	986	79	1250	989	79	0	70-130/30
97-63-2	Ethyl methacrylate	ND	250	198	79	250	206	82	4	72-139/30
100-41-4	Ethylbenzene	ND	250	249	100	250	251	100	1	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	213	85	250	224	90	5	70-130/30
591-78-6	2-Hexanone	ND	250	202	81	250	207	83	2	70-130/30
98-82-8	Isopropylbenzene	ND	250	270	108	250	271	108	0	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	257	103	250	260	104	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	250	220	88	250	225	90	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	205	82	250	211	84	3	70-130/30
74-95-3	Methylene bromide	ND	250	241	96	250	246	98	2	70-130/30
75-09-2	Methylene chloride	ND	250	244	98	250	244	98	0	70-130/30
103-65-1	n-Propylbenzene	ND	250	273	109	250	275	110	1	70-130/30
100-42-5	Styrene	ND	250	247	99	250	250	100	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	211	84	250	216	86	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	212	85	250	217	87	2	70-130/30
127-18-4	Tetrachloroethene	ND	250	232	93	250	236	94	2	70-130/30
108-88-3	Toluene	ND	250	235	94	250	241	96	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	183	73	250	224	90	20	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	210	84	250	230	92	9	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	243	97	250	253	101	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	231	92	250	237	95	3	70-130/30
79-01-6	Trichloroethene	ND	250	238	95	250	244	98	2	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	277	111	250	288	115	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	194	78	250	199	80	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	236	94	250	237	95	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	240	96	250	243	97	1	70-130/30
108-05-4	Vinyl Acetate	ND	250	229	92	250	237	95	3	70-130/30
75-01-4	Vinyl chloride	ND	250	266	106	250	270	108	1	70-130/30
	m,p-Xylene	ND	500	499	100	500	505	101	1	70-130/30
95-47-6	o-Xylene	ND	250	255	102	250	259	104	2	70-130/30
1330-20-7	Xylene (total)	ND	750	754	101	750	764	102	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12833-8MS	V10564.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8MSD	V10565.D	5	08/16/12	AMY	n/a	n/a	MSV439
MC12833-8	V10561.D	1	08/16/12	AMY	n/a	n/a	MSV439

The QC reported here applies to the following samples: Method: SW846 8260B

MC12833-2, MC12833-3, MC12833-4, MC12833-6, MC12833-7, MC12833-8, MC12833-9

CAS No.	Surrogate Recoveries	MS	MSD	MC12833-8	Limits
1868-53-7	Dibromofluoromethane	103%	102%	98%	70-130%
2037-26-5	Toluene-D8	99%	99%	98%	70-130%
460-00-4	4-Bromofluorobenzene	96%	94%	96%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (c) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

6.3.1  
6



# Volatile Internal Standard Area Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSV439-CC436	Injection Date:	08/16/12
Lab File ID:	V10551.D	Injection Time:	06:59
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	408954	6.54	705124	7.73	391660	11.08	311178	13.31	138391	3.51
Upper Limit <sup>a</sup>	817908	7.04	1410248	8.23	783320	11.58	622356	13.81	276782	4.01
Lower Limit <sup>b</sup>	204477	6.04	352562	7.23	195830	10.58	155589	12.81	69196	3.01

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSV439-BS	410424	6.54	712702	7.73	395321	11.08	315024	13.31	135294	3.51
MSV439-MB	401786	6.54	704426	7.73	383723	11.08	295772	13.31	124143	3.51
MC12833-2	399862	6.55	701506	7.73	382828	11.08	291610	13.31	116717	3.52
MC12833-6	386965	6.55	684335	7.73	374633	11.08	287445	13.31	119305	3.52
MC12833-9	394129	6.54	697207	7.73	381299	11.08	294155	13.31	126421	3.51
MC12833-4	388324	6.54	684154	7.73	375300	11.08	286638	13.31	135089	3.51
MC12833-7	415912	6.55	736109	7.73	404357	11.08	308011	13.31	119720	3.51
MC12833-8	384961	6.54	679901	7.73	371336	11.08	283822	13.32	108838	3.51
MC12833-3	388380	6.54	683536	7.73	375124	11.08	292277	13.32	118539	3.51
MC12833-4	390609	6.55	686469	7.73	376709	11.08	293120	13.32	108940	3.52
MC12833-8MS	394025	6.54	690807	7.73	381670	11.08	301617	13.32	108959	3.51
MC12833-8MSD	401187	6.54	694747	7.73	388059	11.08	309010	13.32	121369	3.51
ZZZZZZ	388563	6.55	686005	7.73	373988	11.08	290628	13.32	108391	3.51
ZZZZZZ	388441	6.54	686304	7.73	375924	11.08	286569	13.32	102120	3.50
ZZZZZZ	388355	6.54	684463	7.73	374828	11.08	291186	13.32	104195	3.50
ZZZZZZ	393388	6.55	691655	7.74	382467	11.08	305048	13.32	135527	3.52

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.1  
6

# Volatile Surrogate Recovery Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12833-2	V10555.D	97	97	97
MC12833-3	V10562.D	97	98	96
MC12833-4	V10563.D	97	98	96
MC12833-4	V10559.D	98	99	97
MC12833-6	V10556.D	99	99	97
MC12833-7	V10560.D	99	99	98
MC12833-8	V10561.D	98	98	96
MC12833-9	V10557.D	98	98	95
MC12833-8MS	V10564.D	103	99	96
MC12833-8MSD	V10565.D	102	99	94
MSV439-BS	V10552.D	102	98	94
MSV439-MB	V10554.D	97	98	96

**Surrogate Compounds**

**Recovery Limits**

S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.5.1

6

**GC/MS Semi-volatiles****QC Data Summaries****7**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-MB	W3783.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-MB	W3783.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	31%	15-110%
118-79-6	2,4,6-Tribromophenol	74%	15-110%
4165-60-0	Nitrobenzene-d5	74%	30-130%
321-60-8	2-Fluorobiphenyl	66%	30-130%
1718-51-0	Terphenyl-d14	113%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29950-MB	U9081.D	1	08/08/12	NS	08/07/12	OP29950	MSU505

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	63%	30-130%
1718-51-0	Terphenyl-d14	107%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-BS	W3784.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	35.0	35	30-130
95-57-8	2-Chlorophenol	100	74.5	75	30-130
59-50-7	4-Chloro-3-methyl phenol	100	77.7	78	30-130
120-83-2	2,4-Dichlorophenol	100	73.9	74	30-130
105-67-9	2,4-Dimethylphenol	100	70.8	71	30-130
51-28-5	2,4-Dinitrophenol	100	69.7	70	30-130
534-52-1	4,6-Dinitro-o-cresol	100	93.3	93	30-130
95-48-7	2-Methylphenol	100	68.5	69	30-130
	3&4-Methylphenol	200	138	69	30-130
88-75-5	2-Nitrophenol	100	75.7	76	30-130
100-02-7	4-Nitrophenol	100	49.9	50	30-130
87-86-5	Pentachlorophenol	100	77.9	78	30-130
108-95-2	Phenol	100	39.9	40	30-130
95-95-4	2,4,5-Trichlorophenol	100	79.1	79	30-130
88-06-2	2,4,6-Trichlorophenol	100	78.3	78	30-130
62-53-3	Aniline	50	16.5	33* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	41.1	82	40-140
85-68-7	Butyl benzyl phthalate	50	48.4	97	40-140
100-51-6	Benzyl Alcohol	50	33.8	68	40-140
91-58-7	2-Chloronaphthalene	50	39.6	79	40-140
106-47-8	4-Chloroaniline	50	29.2	58	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	40.5	81	40-140
111-44-4	bis(2-Chloroethyl)ether	50	40.7	81	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	47.6	95	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	42.9	86	40-140
122-66-7	1,2-Diphenylhydrazine	50	46.8	94	40-140
121-14-2	2,4-Dinitrotoluene	50	43.1	86	40-140
606-20-2	2,6-Dinitrotoluene	50	41.7	83	40-140
91-94-1	3,3'-Dichlorobenzidine	50	46.3	93	40-140
132-64-9	Dibenzofuran	50	38.6	77	40-140
84-74-2	Di-n-butyl phthalate	50	45.5	91	40-140
117-84-0	Di-n-octyl phthalate	50	64.8	130	40-140
84-66-2	Diethyl phthalate	50	43.4	87	40-140
131-11-3	Dimethyl phthalate	50	41.3	83	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	49.2	98	40-140
118-74-1	Hexachlorobenzene	50	42.4	85	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-BS	W3784.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	12.3	25* a	40-140
67-72-1	Hexachloroethane	50	31.0	62	40-140
78-59-1	Isophorone	50	38.8	78	40-140
88-74-4	2-Nitroaniline	50	41.0	82	40-140
99-09-2	3-Nitroaniline	50	33.4	67	40-140
100-01-6	4-Nitroaniline	50	34.1	68	40-140
98-95-3	Nitrobenzene	50	40.3	81	40-140
62-75-9	n-Nitrosodimethylamine	50	27.0	54	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	44.1	88	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.5	85	40-140
110-86-1	Pyridine	50	22.5	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	55%	15-110%
4165-62-2	Phenol-d5	38%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	15-110%
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	72%	30-130%
1718-51-0	Terphenyl-d14	104%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.



# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29950-BS	U9082.D	1	08/08/12	NS	08/07/12	OP29950	MSU505

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	36.4	73	40-140
208-96-8	Acenaphthylene	50	26.6	53	40-140
120-12-7	Anthracene	50	38.1	76	40-140
56-55-3	Benzo(a)anthracene	50	46.5	93	40-140
50-32-8	Benzo(a)pyrene	50	52.5	105	40-140
205-99-2	Benzo(b)fluoranthene	50	59.4	119	40-140
191-24-2	Benzo(g,h,i)perylene	50	53.0	106	40-140
207-08-9	Benzo(k)fluoranthene	50	65.0	130	40-140
218-01-9	Chrysene	50	42.1	84	40-140
53-70-3	Dibenzo(a,h)anthracene	50	52.7	105	40-140
206-44-0	Fluoranthene	50	47.0	94	40-140
86-73-7	Fluorene	50	36.4	73	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	53.9	108	40-140
90-12-0	1-Methylnaphthalene	50	32.2	64	40-140
91-57-6	2-Methylnaphthalene	50	32.2	64	40-140
91-20-3	Naphthalene	50	32.8	66	40-140
85-01-8	Phenanthrene	50	38.5	77	40-140
129-00-0	Pyrene	50	45.1	90	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	82%	30-130%
321-60-8	2-Fluorobiphenyl	66%	30-130%
1718-51-0	Terphenyl-d14	111%	30-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-MS	W3785.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
OP29949-MSD	W3786.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
MC12879-4	W3787.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12879-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	36.7	37	100	36.2	36	1	30-130/20
95-57-8	2-Chlorophenol	ND	100	76.0	76	100	63.7	64	18	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	81.2	81	100	72.5	73	11	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	76.5	77	100	63.9	64	18	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	72.9	73	100	63.0	63	15	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	75.8	76	100	69.3	69	9	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	102	102	100	88.2	88	15	30-130/20
95-48-7	2-Methylphenol	ND	100	70.0	70	100	61.2	61	13	30-130/20
	3&4-Methylphenol	ND	200	139	70	200	126	63	10	30-130/20
88-75-5	2-Nitrophenol	ND	100	79.2	79	100	65.1	65	20	30-130/20
100-02-7	4-Nitrophenol	ND	100	52.1	52	100	53.0	53	2	30-130/20
87-86-5	Pentachlorophenol	ND	100	85.2	85	100	71.2	71	18	30-130/20
108-95-2	Phenol	ND	100	39.9	40	100	38.4	38	4	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	81.7	82	100	72.3	72	12	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	80.5	81	100	70.4	70	13	30-130/20
62-53-3	Aniline	ND	50	17.0	34* a	50	15.5	31* a	9	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	44.2	88	50	37.5	75	16	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	52.2	104	50	44.2	88	17	40-140/20
100-51-6	Benzyl Alcohol	ND	50	34.1	68	50	31.1	62	9	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	40.9	82	50	35.7	71	14	40-140/20
106-47-8	4-Chloroaniline	ND	50	30.9	62	50	29.2	58	6	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	42.5	85	50	35.3	71	19	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	42.3	85	50	35.1	70	19	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	50.0	100	50	40.8	82	20	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	45.6	91	50	40.2	80	13	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	50.2	100	50	43.8	88	14	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	46.2	92	50	40.4	81	13	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	44.1	88	50	39.6	79	11	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	46.9	94	50	40.3	81	15	40-140/20
132-64-9	Dibenzofuran	ND	50	40.2	80	50	35.3	71	13	40-140/20
84-74-2	Di-n-butyl phthalate	ND	50	48.3	97	50	41.8	84	14	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	67.6	135	50	57.1	114	17	40-140/20
84-66-2	Diethyl phthalate	ND	50	46.2	92	50	40.9	82	12	40-140/20
131-11-3	Dimethyl phthalate	ND	50	44.4	89	50	39.8	80	11	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	8.7	50	52.4	87	50	46.1	75	13	40-140/20
118-74-1	Hexachlorobenzene	ND	50	46.3	93	50	39.4	79	16	40-140/20

\* = Outside of Control Limits.

7.3.1  
 7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29949-MS	W3785.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
OP29949-MSD	W3786.D	1	08/09/12	KR	08/07/12	OP29949	MSW174
MC12879-4	W3787.D	1	08/09/12	KR	08/07/12	OP29949	MSW174

The QC reported here applies to the following samples: Method: SW846 8270C

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12879-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	12.8	26* a	50	9.8	20* a	27* a	40-140/20
67-72-1	Hexachloroethane	ND	50	32.1	64	50	25.4	51	23* b	40-140/20
78-59-1	Isophorone	ND	50	40.4	81	50	34.6	69	15	40-140/20
88-74-4	2-Nitroaniline	ND	50	43.4	87	50	38.8	78	11	40-140/20
99-09-2	3-Nitroaniline	ND	50	35.8	72	50	34.8	70	3	40-140/20
100-01-6	4-Nitroaniline	ND	50	39.3	79	50	33.8	68	15	40-140/20
98-95-3	Nitrobenzene	ND	50	42.2	84	50	34.5	69	20	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	27.2	54	50	24.4	49	11	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	45.7	91	50	38.8	78	16	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	46.2	92	50	39.2	78	16	40-140/20
110-86-1	Pyridine	ND	50	23.1	46	50	20.5	41	12	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-4	Limits
367-12-4	2-Fluorophenol	55%	50%	50%	15-110%
4165-62-2	Phenol-d5	37%	36%	34%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	77%	69%	15-110%
4165-60-0	Nitrobenzene-d5	82%	67%	71%	30-130%
321-60-8	2-Fluorobiphenyl	74%	63%	61%	30-130%
1718-51-0	Terphenyl-d14	110%	96%	107%	30-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.3.1

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29950-MS	U9083.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
OP29950-MSD	U9084.D	1	08/08/12	NS	08/07/12	OP29950	MSU505
MC12879-5	U9085.D	1	08/08/12	NS	08/07/12	OP29950	MSU505

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12833-3, MC12833-4, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12879-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	38.7	77	50	32.7	65	17	40-140/20
208-96-8	Acenaphthylene	ND	50	28.1	56	50	24.3	49	15	40-140/20
120-12-7	Anthracene	ND	50	40.1	80	50	35.5	71	12	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	50.4	101	50	43.3	87	15	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	53.8	108	50	45.9	92	16	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	60.2	120	50	51.2	102	16	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	53.9	108	50	45.9	92	16	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	66.2	132	50	56.1	112	17	40-140/20
218-01-9	Chrysene	ND	50	45.6	91	50	39.5	79	14	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	54.0	108	50	46.7	93	14	40-140/20
206-44-0	Fluoranthene	ND	50	50.3	101	50	43.8	88	14	40-140/20
86-73-7	Fluorene	ND	50	38.9	78	50	34.1	68	13	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	54.9	110	50	47.3	95	15	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	33.0	66	50	26.5	53	22* a	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	34.1	68	50	28.2	56	19	40-140/20
91-20-3	Naphthalene	ND	50	34.4	69	50	28.6	57	18	40-140/20
85-01-8	Phenanthrene	ND	50	41.3	83	50	35.5	71	15	40-140/20
129-00-0	Pyrene	ND	50	48.3	97	50	42.4	85	13	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-5	Limits
4165-60-0	Nitrobenzene-d5	84%	69%	74%	30-130%
321-60-8	2-Fluorobiphenyl	68%	58%	59%	30-130%
1718-51-0	Terphenyl-d14	115%	104%	103%	30-130%

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.3.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU505-CC486	Injection Date:	08/08/12
Lab File ID:	U9078.D	Injection Time:	14:16
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	139820	3.76	425573	4.74	234784	6.16	426975	7.48	250048	10.25	442475	11.70
Upper Limit <sup>a</sup>	279640	4.26	851146	5.24	469568	6.66	853950	7.98	500096	10.75	884950	12.20
Lower Limit <sup>b</sup>	69910	3.26	212787	4.24	117392	5.66	213488	6.98	125024	9.75	221238	11.20

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	100686	3.76	303498	4.74	166796	6.16	296863	7.47	174965	10.25	317961	11.69
ZZZZZZ	96351	3.76	288817	4.74	159486	6.16	286700	7.47	171214	10.25	312107	11.69
OP29950-MB	101807	3.77	307406	4.74	168613	6.16	302479	7.47	165240	10.25	229703	11.69
OP29950-BS	102537	3.77	309028	4.74	167468	6.16	293160	7.48	154996	10.25	218868 <sup>c</sup>	11.69
OP29950-MS	99991	3.77	296243	4.74	162595	6.16	292174	7.48	154322	10.25	228858	11.69
OP29950-MSD	99331	3.77	297807	4.74	162105	6.16	288422	7.48	152062	10.25	230334	11.69
MC12879-5	91604	3.77	278815	4.74	154351	6.16	279105	7.47	161564	10.25	242832	11.69
MC12833-3	92690	3.77	273860	4.74	154271	6.16	278905	7.47	160045	10.25	250744	11.69
MC12833-4	91703	3.77	275204	4.74	153200	6.16	275947	7.48	165801	10.25	260117	11.69
MC12833-7	95051	3.76	284456	4.74	154723	6.16	279818	7.47	161828	10.25	255907	11.69
MC12833-8	97582	3.76	293148	4.74	157406	6.16	282265	7.47	164632	10.25	270250	11.69
MC12833-9	90628	3.76	273941	4.74	149274	6.16	270661	7.47	162389	10.25	265681	11.69
ZZZZZZ	125506	3.76	370391	4.74	200882	6.16	358697	7.48	213974	10.25	378873	11.69
ZZZZZZ	120105	3.76	351006	4.74	194091	6.16	345520	7.48	207644	10.25	365446	11.69

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Individual spike recoveries within acceptance limits.

7.4.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW174-CC129	Injection Date:	08/09/12
Lab File ID:	W3782.D	Injection Time:	08:18
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	409301	3.79	1559438	4.78	964136	6.21	1800753	7.54	2203960	10.43	1940500	12.00
Upper Limit <sup>a</sup>	818602	4.29	3118876	5.28	1928272	6.71	3601506	8.04	4407920	10.93	3881000	12.50
Lower Limit <sup>b</sup>	204651	3.29	779719	4.28	482068	5.71	900377	7.04	1101980	9.93	970250	11.50

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29949-MB	447508	3.79	1649294	4.78	990696	6.20	1770152	7.53	1874126	10.42	1430423	11.99
OP29949-BS	444713	3.79	1674225	4.78	995596	6.20	1752861	7.53	1984520	10.42	1467259	12.00
OP29949-MS	436578	3.79	1628079	4.78	985753	6.20	1719920	7.53	1941356	10.42	1490687	12.00
OP29949-MSD	436752	3.79	1625030	4.78	960805	6.20	1720332	7.53	1950899	10.42	1524773	12.00
MC12879-4	413869	3.79	1549917	4.78	927658	6.20	1672557	7.53	1858389	10.42	1558360	11.99
ZZZZZZ	653606	3.80	2516432	4.78	1404445	6.21	2343877	7.53	2357188	10.31	2984989	11.76
ZZZZZZ	415679	3.79	1568004	4.78	932119	6.20	1666646	7.53	2014655	10.42	2681368	12.00
ZZZZZZ	393043	3.79	1462693	4.78	892329	6.20	1584924	7.53	1926842	10.42	2623590	12.00
ZZZZZZ	360256	3.79	1345857	4.78	808039	6.20	1441202	7.53	1755291	10.42	2466952	12.00
ZZZZZZ	370294	3.79	1367830	4.78	826715	6.20	1475549	7.53	1302511	10.42	984019	12.00
ZZZZZZ	382677	3.79	1410740	4.78	843575	6.20	1479533	7.53	1305737	10.42	1002151	11.99
MC12833-3	451894	3.79	1684689	4.78	1027769	6.20	1813596	7.53	2032364	10.42	1765864	12.00
MC12833-4	432651	3.79	1593700	4.78	971077	6.20	1733179	7.53	2003842	10.42	1752799	12.00
MC12833-7	400066	3.79	1513849	4.78	904452	6.20	1609683	7.53	1904513	10.42	1676885	12.00
MC12833-8	413011	3.79	1526167	4.78	918233	6.20	1636702	7.53	1910867	10.42	1755122	12.00
MC12833-9	401086	3.79	1507677	4.78	901466	6.20	1604391	7.53	1938273	10.42	1802940	12.00
ZZZZZZ	410641	3.79	1554422	4.78	994774	6.21	1693979	7.54	1606255	10.42	1185757	12.00
ZZZZZZ	427084	3.79	1585490	4.78	970706	6.20	1707807	7.53	1684582	10.42	1391041	12.00
ZZZZZZ	509820	3.79	1840615	4.78	1066831	6.20	1739361	7.53	1353642	10.42	983958	11.99
ZZZZZZ	495802	3.79	1773944	4.78	1020864	6.20	1671435	7.53	1329778	10.42	1064630	11.99
ZZZZZZ	411115	3.79	1471833	4.78	845897	6.20	1476628	7.53	1574395	10.44	1345633	12.03
ZZZZZZ	498858	3.80	1966693	4.79	1218259	6.21	2169713	7.54	2146198	10.43	1564890	12.01
ZZZZZZ	444082	3.79	1707278	4.78	1081639	6.21	1980718	7.53	1662710	10.42	1140800	12.00
ZZZZZZ	460924	3.79	1684585	4.78	981393	6.21	1617635	7.53	1237332	10.42	929847 <sup>c</sup>	12.00
ZZZZZZ	474897	3.79	1825142	4.78	1149249	6.21	2072740	7.53	2013234	10.42	1418783	12.00
ZZZZZZ	478795	3.79	1724053	4.78	1017891	6.20	1686381	7.53	1278324	10.42	974151	12.00
ZZZZZZ	459280	3.79	1709747	4.78	1039041	6.21	1782970	7.53	1446804	10.42	1055860	12.00
ZZZZZZ	496844	3.79	1811939	4.78	1051346	6.21	1727439	7.53	1371984	10.42	1071589	12.00
ZZZZZZ	439957	3.79	1596945	4.78	941655	6.20	1630553	7.53	1529418	10.42	1169682	12.00
ZZZZZZ	416089	3.79	1551191	4.78	906978	6.20	1568670	7.53	1223659	10.42	898736 <sup>c</sup>	12.00
ZZZZZZ	522175	3.79	1936798	4.78	1217934	6.21	2208566	7.54	1728319	10.48	1521925	12.08
ZZZZZZ	476691	3.80	1719541	4.78	1014197	6.21	1705560	7.53	1237301	10.42	974401	12.00

IS 1 = 1,4-Dichlorobenzene-d4  
 IS 2 = Naphthalene-d8

7.4.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12833  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW174-CC129	Injection Date:	08/09/12
Lab File ID:	W3782.D	Injection Time:	08:18
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6				
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 3 = Acenaphthene-D10  
IS 4 = Phenanthrene-d10  
IS 5 = Chrysene-d12  
IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

7.4.2  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12833-3	W3794.D	42	36	86	81	72	105
MC12833-4	W3795.D	24	30	75	66	62	90
MC12833-7	W3796.D	47	31	79	73	68	97
MC12833-8	W3797.D	40	27	68	59	53	94
MC12833-9	W3798.D	51	34	84	81	73	106
OP29949-BS	W3784.D	55	38	85	79	72	104
OP29949-MB	W3783.D	48	31	74	74	66	113
OP29949-MS	W3785.D	55	37	92	82	74	110
OP29949-MSD	W3786.D	50	36	77	67	63	96

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.5.1

7



# Semivolatile Surrogate Recovery Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12833-3	U9086.D	84	67	99
MC12833-4	U9087.D	69	59	88
MC12833-7	U9088.D	76	66	96
MC12833-8	U9089.D	63	53	93
MC12833-9	U9090.D	84	69	102
OP29950-BS	U9082.D	82	66	111
OP29950-MB	U9081.D	76	63	107
OP29950-MS	U9083.D	84	68	115
OP29950-MSD	U9084.D	69	58	104

**Surrogate Compounds**                      **Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.5.2  
7

## GC Volatiles

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## QC Data Summaries



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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

**Job Number:** MC12833  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MB	BK15933.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12833-1, MC12833-3, MC12833-4, MC12833-5, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	94%	36-173%
460-00-4	Bromofluorobenzene (S)	113%	36-173%

8.1.1  
8

# Blank Spike Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-BS	BK15934.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12833-1, MC12833-3, MC12833-4, MC12833-5, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.077	108	60-140
106-93-4	1,2-Dibromoethane	0.071	0.072	101	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	75%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MS	BK15935.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
OP29955-MSD	BK15936.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
MC12879-7	BK15938.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12833-1, MC12833-3, MC12833-4, MC12833-5, MC12833-7, MC12833-8, MC12833-9

CAS No.	Compound	MC12879-7 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.071	0.070	99	0.071	0.072	101	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.071	0.069	97	0.071	0.070	99	1	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-7	Limits
460-00-4	Bromofluorobenzene (S)	86%	86%	95%	36-173%
460-00-4	Bromofluorobenzene (S)	97%	101%	113%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12833

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12833-1	BK15944.D	109	91
MC12833-3	BK15945.D	89	127
MC12833-4	BK15946.D	100	143
MC12833-5	BK15947.D	95	117
MC12833-7	BK15949.D	87	104
MC12833-8	BK15950.D	93	107
MC12833-9	BK15951.D	100	116
OP29955-BS	BK15934.D	75	85
OP29955-MB	BK15933.D	94	113
OP29955-MS	BK15935.D	86	97
OP29955-MSD	BK15936.D	86	101

Surrogate Compounds

Recovery Limits

S1 = Bromofluorobenzene (S) 36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15926.D	Injection Time:	03:45
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15927.D	08/10/12	04:10	5.28	4.40
ZZZZZZ	BK15928.D	08/10/12	04:34	5.28	4.40
ZZZZZZ	BK15929.D	08/10/12	04:59	5.28	4.40
ZZZZZZ	BK15930.D	08/10/12	05:23	5.28	4.40
ZZZZZZ	BK15931.D	08/10/12	05:48	5.28	4.40
ZZZZZZ	BK15932.D	08/10/12	06:12	5.28	4.40
OP29955-MB	BK15933.D	08/10/12	06:37	5.28	4.40
OP29955-BS	BK15934.D	08/10/12	07:01	5.28	4.40
OP29955-MS	BK15935.D	08/10/12	07:26	5.28	4.40
OP29955-MSD	BK15936.D	08/10/12	07:50	5.28	4.40

### Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15937.D	Injection Time:	08:15
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
MC12879-7	BK15938.D	08/10/12	08:39	5.28	4.40
ZZZZZZ	BK15939.D	08/10/12	09:03	5.28	4.40
ZZZZZZ	BK15940.D	08/10/12	09:27	5.28	4.40
ZZZZZZ	BK15941.D	08/10/12	09:52	5.28	4.40
ZZZZZZ	BK15942.D	08/10/12	10:16	5.28	4.40
ZZZZZZ	BK15943.D	08/10/12	10:40	5.28	4.40
MC12833-1	BK15944.D	08/10/12	11:04	5.28	4.40
MC12833-3	BK15945.D	08/10/12	11:29	5.28	4.40
MC12833-4	BK15946.D	08/10/12	11:53	5.28	4.40
MC12833-5	BK15947.D	08/10/12	12:17	5.28	4.40

### Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8



# GC Surrogate Retention Time Summary

Job Number: MC12833  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15948.D	Injection Time:	12:42
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
MC12833-7	BK15949.D	08/10/12	13:06	5.28	4.40
MC12833-8	BK15950.D	08/10/12	13:30	5.28	4.40
MC12833-9	BK15951.D	08/10/12	13:54	5.28	4.40
ZZZZZZ	BK15952.D	08/10/12	14:24	5.28	4.40
ZZZZZZ	BK15953.D	08/10/12	14:48	5.28	4.40
ZZZZZZ	BK15954.D	08/10/12	15:12	5.28	4.40
ZZZZZZ	BK15955.D	08/10/12	15:37	5.28	4.40
ZZZZZZ	BK15956.D	08/10/12	16:01	5.28	4.40
ZZZZZZ	BK15957.D	08/10/12	16:25	5.28	4.40
ZZZZZZ	BK15958.D	08/10/12	16:49	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.3  
8

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



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*Automated Report*

### Technical Report for

### Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12905

Sampling Date: 08/06/12

### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 117



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



ACCUTEST

October 21, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12905

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

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TESTING AND CERTIFICATION COMPANY.

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## Sample Summary

Shell Oil

Job No: MC12905

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC12905-1	08/06/12	00:00	DMCW08/07/12	AQ	Trip Blank Water	TB-080612-HCL-W
MC12905-2	08/06/12	00:00	DMCW08/07/12	AQ	Trip Blank Water	TB-080612-ST-W
MC12905-3	08/06/12	10:15	DMCW08/07/12	AQ	Ground Water	P56-ROX-080612
MC12905-4	08/06/12	13:10	DMCW08/07/12	AQ	Ground Water	P74-ROX-080612
MC12905-5	08/06/12	14:00	DMCW08/07/12	AQ	Ground Water	P57-ROX-080612
MC12905-6	08/06/12	14:00	DMCW08/07/12	AQ	Ground Water	P57-ROX-080612-DUP
MC12905-7	08/06/12	15:15	DMCW08/07/12	AQ	Ground Water	P58-ROX-080612
MC12905-8	08/06/12	15:15	DMCW08/07/12	AQ	Ground Water	P58-ROX-080612-DUP

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** She O

**Job No** MC 2905

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 10/26/2016 6:35:45 P

6 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 08/06/2016 and were received at SGS Accutest New England on 08/07/2016 properly preserved, at 10 Deg C and intact. These Samples received a job number of MC 2905. Assignment of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Chloroethane, Benzene, Dichloroethane, Indene and Quinoline were searched in the library search and reported on if detections were found.

Except as noted below, all method specified calibration and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** MSN25 2

- All samples were analyzed within the recommended method holding time
- Sample(s) MC 2870-4MS, MC 2870-4MSD were used as the QC samples indicated
- All method blanks for this batch meet method specification criteria
- Sample(s) MC 2905-6 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range
- Blank Spike Recovery(s) for Acrylonitrile, Acroene are outside control limits
- Matrix Spike Recovery(s) for Acetone, Acroene, Acrylonitrile are outside control limits. Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for Acetone, Acroene are outside control limits. Probable cause due to matrix interference
- Acroene: In the Calibration Verification section of acceptance criteria Sample result may be biased low
- MSN25 2-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound
- MC 2870-4MS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound
- Continuing calibration check standard for Acroene exceeds 50% Difference. Associated samples are non-detect for these compounds

**Matrix:** AQ **Batch ID:** MSN25 4

- All samples were analyzed within the recommended method holding time
- Sample(s) MC 2944- 5MS, MC 2944- 5MSD were used as the QC samples indicated
- All method blanks for this batch meet method specification criteria
- MC 2905-5: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria. Instrument QC and results may be biased low
- MC 2905-7: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria. Instrument QC and results may be biased low
- MC 2905-8: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria. Instrument QC and results may be biased low
- MC 2905-6: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria. Instrument QC and results may be biased low

**Matrix:** AQ **Batch ID:** MSP2072

- All samples were analyzed within the recommended method holding time
- All method blanks for this batch meet method specification criteria
- Sample(s) MC 3089-8MS, MC 3089-8MSD were used as the QC samples indicated
- Blank Spike Recovery(s) for Vinyl Acetate are outside control limits
- Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Bromomethane are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Probable cause due to matrix interference

### Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ

**Batch ID:** OP2996

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879-6MS, MC 2879-6MSD were used as the QC samples indicated
- Sample(s) MC 2905-3, MC 2905-4, MC 2905-5, MC 2905-6, MC 2905-7, MC 2905-8 have compound(s) reported with a "B" qualifier, indicating analytes found in the associated method blank
- Blank Spike Recovery(s) for 3,3'-Dichlorobenzene, 4-Chloroaniline, Aniline, Pyridine are outside control limits
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzene, 3-Nitroaniline, 4-Chloroaniline, Aniline, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 3,3'-Dichlorobenzene, 4-Chloroaniline, Pyridine, 3-Nitroaniline, Aniline are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity
- RPD(s) for MSD for 3-Nitroaniline, 4-Nitroaniline, Aniline are outside control limits for sample OP2996 -MSD. High RPD due to possible matrix interference and/or sample non-homogeneity
- In the calibration verification standard for Aniline exceeds 50% Difference. Aniline is within criteria on continuing calibration check standard

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ

**Batch ID:** OP29962

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879- MS, MC 2879- MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification criteria
- Matrix Spike Duplicate Recovery(s) for Benzo(k)fluoranthene are outside control limits. Probable cause due to matrix interference

### Volatiles by GC By Method SW846 8011

**Matrix:** AQ

**Batch ID:** OP29956

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879-8MS, MC 2879-8MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification criteria

SGS Accutest New England certifies that all analyses were performed with the method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 2905)

# Summary of Hits

**Job Number:** MC12905  
**Account:** Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Collected:** 08/06/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
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MC12905-1 TB-080612-HCL-W

No hits reported in this sample.

MC12905-2 TB-080612-ST-W

No hits reported in this sample.

MC12905-3 P56-ROX-080612

Benzene	164	2.5	1.2	ug/l	SW846 8260B
Ethylbenzene	101	5.0	2.5	ug/l	SW846 8260B
Isopropylbenzene	44.2	25	2.5	ug/l	SW846 8260B
n-Propylbenzene	43.9	25	2.9	ug/l	SW846 8260B
Toluene	10.9	5.0	2.5	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	13.1 J	25	1.7	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	5.0 J	25	2.3	ug/l	SW846 8260B
m,p-Xylene	110	5.0	3.7	ug/l	SW846 8260B
o-Xylene	8.3	5.0	2.9	ug/l	SW846 8260B
Xylene (total)	118	5.0	2.9	ug/l	SW846 8260B
Dibenzofuran	0.51 J	2.0	0.22	ug/l	SW846 8270C
Di-n-butyl phthalate	0.75 JB	5.1	0.37	ug/l	SW846 8270C
Diethyl phthalate	1.4 JB	5.1	0.19	ug/l	SW846 8270C
Acenaphthene	0.58	0.10	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene	0.087 J	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene	0.13	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluorene	0.30	0.10	0.047	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	14.1	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	17.3	0.20	0.053	ug/l	SW846 8270C BY SIM
Naphthalene	19.7	0.10	0.037	ug/l	SW846 8270C BY SIM
Phenanthrene	1.3	0.051	0.013	ug/l	SW846 8270C BY SIM

MC12905-4 P74-ROX-080612

Benzene	2460	5.0	2.4	ug/l	SW846 8260B
Ethylbenzene	78.2	10	5.1	ug/l	SW846 8260B
Toluene	159	10	5.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	187	50	3.5	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	66.3	50	4.7	ug/l	SW846 8260B
m,p-Xylene	388	10	7.3	ug/l	SW846 8260B
o-Xylene	125	10	5.8	ug/l	SW846 8260B
Xylene (total)	512	10	5.8	ug/l	SW846 8260B
2,4-Dimethylphenol	3.9 J	10	2.7	ug/l	SW846 8270C
2-Methylphenol	1.4 J	10	0.60	ug/l	SW846 8270C
3&4-Methylphenol	1.0 J	10	0.75	ug/l	SW846 8270C



# Summary of Hits

Job Number: MC12905  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/06/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
		Phenol	15.8	5.0	0.93	ug/l SW846 8270C
		Di-n-butyl phthalate	0.82 JB	5.0	0.36	ug/l SW846 8270C
		Diethyl phthalate	1.2 JB	5.0	0.19	ug/l SW846 8270C
		Acenaphthene	0.16	0.10	0.014	ug/l SW846 8270C BY SIM
		Acenaphthylene	0.056 J	0.10	0.013	ug/l SW846 8270C BY SIM
		Anthracene	0.041 J	0.10	0.018	ug/l SW846 8270C BY SIM
		Fluorene	0.21	0.10	0.046	ug/l SW846 8270C BY SIM
		1-Methylnaphthalene	9.0	0.20	0.14	ug/l SW846 8270C BY SIM
		2-Methylnaphthalene	10.2	0.20	0.052	ug/l SW846 8270C BY SIM
		Naphthalene	17.7	0.10	0.036	ug/l SW846 8270C BY SIM
		Phenanthrene	0.12	0.050	0.013	ug/l SW846 8270C BY SIM

MC12905-5 P57-ROX-080612

		Benzene <sup>a</sup>	99400	250	120	ug/l SW846 8260B
		Ethylbenzene	795	50	25	ug/l SW846 8260B
		Methyl Tert Butyl Ether	238	50	21	ug/l SW846 8260B
		Toluene	57.7	50	25	ug/l SW846 8260B
		1,2,4-Trimethylbenzene	506	250	17	ug/l SW846 8260B
		1,3,5-Trimethylbenzene	123 J	250	23	ug/l SW846 8260B
		m,p-Xylene	740	50	37	ug/l SW846 8260B
		o-Xylene	32.8 J	50	29	ug/l SW846 8260B
		Xylene (total)	773	50	29	ug/l SW846 8260B
		2,4-Dimethylphenol	2.9 J	10	2.7	ug/l SW846 8270C
		3&4-Methylphenol	1.3 J	10	0.75	ug/l SW846 8270C
		Phenol	69.7	5.0	0.93	ug/l SW846 8270C
		Dibenzofuran	0.79 J	2.0	0.21	ug/l SW846 8270C
		Di-n-butyl phthalate	0.87 JB	5.0	0.36	ug/l SW846 8270C
		Diethyl phthalate	0.96 JB	5.0	0.19	ug/l SW846 8270C
		Acenaphthene	0.56	0.10	0.014	ug/l SW846 8270C BY SIM
		Acenaphthylene	0.10	0.10	0.013	ug/l SW846 8270C BY SIM
		Anthracene	0.073 J	0.10	0.018	ug/l SW846 8270C BY SIM
		Fluorene	0.60	0.10	0.046	ug/l SW846 8270C BY SIM
		1-Methylnaphthalene	24.4	0.20	0.14	ug/l SW846 8270C BY SIM
		2-Methylnaphthalene	32.3	0.20	0.052	ug/l SW846 8270C BY SIM
		Naphthalene	119	0.10	0.036	ug/l SW846 8270C BY SIM
		Phenanthrene	0.53	0.050	0.013	ug/l SW846 8270C BY SIM

MC12905-6 P57-ROX-080612-DUP

		Benzene <sup>a</sup>	106000	250	120	ug/l SW846 8260B
		sec-Butylbenzene	10.7	5.0	0.55	ug/l SW846 8260B
		tert-Butylbenzene	12.4	5.0	0.64	ug/l SW846 8260B
		Ethylbenzene	759 E	1.0	0.51	ug/l SW846 8260B
		Isopropylbenzene	43.2	5.0	0.50	ug/l SW846 8260B

# Summary of Hits

Job Number: MC12905  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/06/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method	
		p-Isopropyltoluene	10.9	5.0	0.57	ug/l	SW846 8260B
		Methyl Tert Butyl Ether	212	1.0	0.41	ug/l	SW846 8260B
		n-Propylbenzene	51.9	5.0	0.58	ug/l	SW846 8260B
		Toluene	55.8	1.0	0.51	ug/l	SW846 8260B
		1,2,4-Trimethylbenzene	505 E	5.0	0.35	ug/l	SW846 8260B
		1,3,5-Trimethylbenzene	137	5.0	0.47	ug/l	SW846 8260B
		m,p-Xylene	692	1.0	0.73	ug/l	SW846 8260B
		o-Xylene	34.8	1.0	0.58	ug/l	SW846 8260B
		Xylene (total)	727	1.0	0.58	ug/l	SW846 8260B
		2,4-Dimethylphenol	2.9 J	10	2.7	ug/l	SW846 8270C
		3&4-Methylphenol	1.3 J	10	0.75	ug/l	SW846 8270C
		Phenol	92.1	5.0	0.93	ug/l	SW846 8270C
		Dibenzofuran	0.73 J	2.0	0.21	ug/l	SW846 8270C
		Di-n-butyl phthalate	0.89 JB	5.0	0.36	ug/l	SW846 8270C
		Diethyl phthalate	1.0 JB	5.0	0.19	ug/l	SW846 8270C
		Acenaphthene	0.51	0.10	0.014	ug/l	SW846 8270C BY SIM
		Acenaphthylene	0.10	0.10	0.013	ug/l	SW846 8270C BY SIM
		Anthracene	0.064 J	0.10	0.018	ug/l	SW846 8270C BY SIM
		Fluorene	0.63	0.10	0.046	ug/l	SW846 8270C BY SIM
		1-Methylnaphthalene	24.2	0.20	0.14	ug/l	SW846 8270C BY SIM
		2-Methylnaphthalene	31.1	0.20	0.052	ug/l	SW846 8270C BY SIM
		Naphthalene	115	0.10	0.036	ug/l	SW846 8270C BY SIM
		Phenanthrene	0.54	0.050	0.013	ug/l	SW846 8270C BY SIM

MC12905-7 P58-ROX-080612

		Benzene <sup>a</sup>	313000	500	240	ug/l	SW846 8260B
		tert-Butylbenzene	31.7 J	100	13	ug/l	SW846 8260B
		Ethylbenzene	889	20	10	ug/l	SW846 8260B
		Isopropylbenzene	64.9 J	100	10	ug/l	SW846 8260B
		n-Propylbenzene	90.9 J	100	12	ug/l	SW846 8260B
		Toluene	117	20	10	ug/l	SW846 8260B
		1,2,4-Trimethylbenzene	705	100	6.9	ug/l	SW846 8260B
		1,3,5-Trimethylbenzene	95.5 J	100	9.3	ug/l	SW846 8260B
		m,p-Xylene	652	20	15	ug/l	SW846 8260B
		o-Xylene	97.6	20	12	ug/l	SW846 8260B
		Xylene (total)	749	20	12	ug/l	SW846 8260B
		3&4-Methylphenol	14.6	10	0.75	ug/l	SW846 8270C
		Phenol	150	5.0	0.93	ug/l	SW846 8270C
		Dibenzofuran	2.2	2.0	0.21	ug/l	SW846 8270C
		Di-n-butyl phthalate	0.53 JB	5.0	0.36	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.43 J	2.0	0.38	ug/l	SW846 8270C
		Acenaphthene	0.86	0.10	0.014	ug/l	SW846 8270C BY SIM
		Acenaphthylene	0.29	0.10	0.013	ug/l	SW846 8270C BY SIM
		Anthracene	0.094 J	0.10	0.018	ug/l	SW846 8270C BY SIM

# Summary of Hits

Job Number: MC12905  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/06/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
		Benzo(a)anthracene	0.24	0.050	0.030	ug/l SW846 8270C BY SIM
		Benzo(a)pyrene	0.11	0.10	0.017	ug/l SW846 8270C BY SIM
		Benzo(b)fluoranthene	0.064	0.050	0.024	ug/l SW846 8270C BY SIM
		Benzo(g,h,i)perylene	0.043 J	0.10	0.038	ug/l SW846 8270C BY SIM
		Chrysene	0.10	0.10	0.073	ug/l SW846 8270C BY SIM
		Fluoranthene	0.068 J	0.10	0.033	ug/l SW846 8270C BY SIM
		Fluorene	1.4	0.10	0.046	ug/l SW846 8270C BY SIM
		1-Methylnaphthalene	52.4	0.20	0.14	ug/l SW846 8270C BY SIM
		2-Methylnaphthalene	69.1	0.20	0.052	ug/l SW846 8270C BY SIM
		Naphthalene	142	1.0	0.36	ug/l SW846 8270C BY SIM
		Phenanthrene	1.0	0.050	0.013	ug/l SW846 8270C BY SIM

MC12905-8 P58-ROX-080612-DUP

		Benzene <sup>a</sup>	308000	500	240	ug/l SW846 8260B
		sec-Butylbenzene	17.6 J	50	5.5	ug/l SW846 8260B
		tert-Butylbenzene	33.9 J	50	6.4	ug/l SW846 8260B
		Ethylbenzene	931	10	5.1	ug/l SW846 8260B
		Isopropylbenzene	71.8	50	5.0	ug/l SW846 8260B
		p-Isopropyltoluene	11.8 J	50	5.7	ug/l SW846 8260B
		n-Propylbenzene	99.6	50	5.8	ug/l SW846 8260B
		Toluene	128	10	5.1	ug/l SW846 8260B
		1,2,4-Trimethylbenzene	737	50	3.5	ug/l SW846 8260B
		1,3,5-Trimethylbenzene	102	50	4.7	ug/l SW846 8260B
		m,p-Xylene	656	10	7.3	ug/l SW846 8260B
		o-Xylene	104	10	5.8	ug/l SW846 8260B
		Xylene (total)	759	10	5.8	ug/l SW846 8260B
		3&4-Methylphenol	19.5	10	0.75	ug/l SW846 8270C
		Phenol	190	25	4.6	ug/l SW846 8270C
		Dibenzofuran	2.5	2.0	0.21	ug/l SW846 8270C
		Di-n-butyl phthalate	0.63 JB	5.0	0.36	ug/l SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.42 J	2.0	0.38	ug/l SW846 8270C
		Acenaphthene	0.98	0.10	0.014	ug/l SW846 8270C BY SIM
		Acenaphthylene	0.30	0.10	0.013	ug/l SW846 8270C BY SIM
		Anthracene	0.11	0.10	0.018	ug/l SW846 8270C BY SIM
		Benzo(a)anthracene	0.21	0.050	0.030	ug/l SW846 8270C BY SIM
		Benzo(a)pyrene	0.098 J	0.10	0.017	ug/l SW846 8270C BY SIM
		Benzo(b)fluoranthene	0.050	0.050	0.024	ug/l SW846 8270C BY SIM
		Chrysene	0.099 J	0.10	0.073	ug/l SW846 8270C BY SIM
		Fluoranthene	0.066 J	0.10	0.033	ug/l SW846 8270C BY SIM
		Fluorene	1.5	0.10	0.046	ug/l SW846 8270C BY SIM
		1-Methylnaphthalene	59.6	0.20	0.14	ug/l SW846 8270C BY SIM
		2-Methylnaphthalene	79.0	0.20	0.052	ug/l SW846 8270C BY SIM
		Naphthalene	150	1.0	0.36	ug/l SW846 8270C BY SIM
		Phenanthrene	1.1	0.050	0.013	ug/l SW846 8270C BY SIM

## Summary of Hits

Job Number: MC12905

Account: Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Collected: 08/06/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Pyrene		0.21	0.10	0.036	ug/l	SW846 8270C BY SIM

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

<b>Client Sample ID:</b>	TB-080612-HCL-W	<b>Date Sampled:</b>	08/06/12
<b>Lab Sample ID:</b>	MC12905-1	<b>Date Received:</b>	08/07/12
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B	<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66795.D	1	08/17/12	JP	n/a	n/a	MSN2512
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080612-HCL-W	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-1	Date Received:	08/07/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080612-HCL-W		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-1		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	93%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> TB-080612-ST-W	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-2	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15923.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

Run #	Initial Volume	Final Volume
Run #1	33.7 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.016	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.016	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	92%		36-173%
460-00-4	Bromofluorobenzene (S)	110%		36-173%

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

Client Sample ID:	P56-ROX-080612	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-3	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P63637.D	5	08/20/12	TT	n/a	n/a	MSP2072
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	15	ug/l	
107-02-8	Acrolein	ND	130	51	ug/l	
107-13-1	Acrylonitrile	ND	25	16	ug/l	
71-43-2	Benzene	164	2.5	1.2	ug/l	
108-86-1	Bromobenzene	ND	25	3.1	ug/l	
74-97-5	Bromochloromethane	ND	25	6.1	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.9	ug/l	
75-25-2	Bromoform	ND	5.0	3.9	ug/l	
74-83-9	Bromomethane	ND	10	5.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	25	12	ug/l	
104-51-8	n-Butylbenzene	ND	25	3.4	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.8	ug/l	
98-06-6	tert-Butylbenzene	ND	25	3.2	ug/l	
75-15-0	Carbon disulfide	ND	25	3.1	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	4.3	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.3	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	25	3.9	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	10	3.7	ug/l	
95-49-8	o-Chlorotoluene	ND	25	3.2	ug/l	
106-43-4	p-Chlorotoluene	ND	25	2.4	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.6	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	4.6	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	3.2	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	8.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	3.1	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.2	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	3.2	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	4.7	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P56-ROX-080612	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-3	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	10	3.6	ug/l	
142-28-9	1,3-Dichloropropane	ND	25	3.2	ug/l	
594-20-7	2,2-Dichloropropane	ND	25	7.9	ug/l	
563-58-6	1,1-Dichloropropene	ND	25	4.6	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	2.2	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.98	ug/l	
123-91-1	1,4-Dioxane	ND	130	74	ug/l	
97-63-2	Ethyl methacrylate	ND	25	4.1	ug/l	
100-41-4	Ethylbenzene	101	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	10	ug/l	
591-78-6	2-Hexanone	ND	25	9.8	ug/l	
98-82-8	Isopropylbenzene	44.2	25	2.5	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.9	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	25	15	ug/l	
74-95-3	Methylene bromide	ND	25	5.5	ug/l	
75-09-2	Methylene chloride	ND	10	4.2	ug/l	
103-65-1	n-Propylbenzene	43.9	25	2.9	ug/l	
100-42-5	Styrene	ND	25	2.3	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	25	2.9	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.1	ug/l	
108-88-3	Toluene	10.9	5.0	2.5	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	5.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	6.4	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	4.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	3.9	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.4	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	4.2	ug/l	
95-63-6	1,2,4-Trimethylbenzene	13.1	25	1.7	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	5.0	25	2.3	ug/l	J
108-05-4	Vinyl Acetate	ND	25	5.0	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.1	ug/l	
	m,p-Xylene	110	5.0	3.7	ug/l	
95-47-6	o-Xylene	8.3	5.0	2.9	ug/l	
1330-20-7	Xylene (total)	118	5.0	2.9	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P56-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-3		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P56-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-3	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56732.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.77	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.65	ug/l	
108-95-2	Phenol	ND	5.1	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.91	ug/l	
132-64-9	Dibenzofuran	0.51	2.0	0.22	ug/l	J
84-74-2	Di-n-butyl phthalate	0.75	5.1	0.37	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P56-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-3		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	1.4	5.1	0.19	ug/l	JB
131-11-3	Dimethyl phthalate	ND	5.1	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	63%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P56-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-3	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9133.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2							

Run #	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.58	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.087	0.10	0.014	ug/l	J
120-12-7	Anthracene	0.13	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.074	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.30	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	14.1	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	17.3	0.20	0.053	ug/l	
91-20-3	Naphthalene	19.7	0.10	0.037	ug/l	
85-01-8	Phenanthrene	1.3	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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4

## Report of Analysis

<b>Client Sample ID:</b> P56-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-3	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15924.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.5 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		36-173%
460-00-4	Bromofluorobenzene (S)	129%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.3  
4



## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66799.D	10	08/17/12	JP	n/a	n/a	MSN2512
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	30	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	2460	5.0	2.4	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P74-ROX-080612	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-4	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	78.2	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	ND	50	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	ND	50	5.8	ug/l	
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	159	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	187	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	66.3	50	4.7	ug/l	
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	388	10	7.3	ug/l	
95-47-6	o-Xylene	125	10	5.8	ug/l	
1330-20-7	Xylene (total)	512	10	5.8	ug/l	

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J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	76%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56733.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	3.9	10	2.7	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	1.4	10	0.60	ug/l	J
	3&4-Methylphenol	1.0	10	0.75	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	15.8	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.82	5.0	0.36	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	1.2	5.0	0.19	ug/l	JB
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	78%		15-110%
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9134.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.16	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.056	0.10	0.013	ug/l	J
120-12-7	Anthracene	0.041	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.21	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	9.0	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	10.2	0.20	0.052	ug/l	
91-20-3	Naphthalene	17.7	0.10	0.036	ug/l	
85-01-8	Phenanthrene	0.12	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	68%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P74-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-4	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15925.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.2 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	99%		36-173%
460-00-4	Bromofluorobenzene (S)	94%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66800.D	50	08/17/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66843.D	500	08/20/12	AMY	n/a	n/a	MSN2514

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	150	ug/l	
107-02-8	Acrolein <sup>b</sup>	ND	1300	510	ug/l	
107-13-1	Acrylonitrile	ND	250	160	ug/l	
71-43-2	Benzene	99400 <sup>c</sup>	250	120	ug/l	
108-86-1	Bromobenzene	ND	250	31	ug/l	
74-97-5	Bromochloromethane	ND	250	61	ug/l	
75-27-4	Bromodichloromethane	ND	50	29	ug/l	
75-25-2	Bromoform	ND	50	39	ug/l	
74-83-9	Bromomethane	ND	100	51	ug/l	
78-93-3	2-Butanone (MEK)	ND	250	120	ug/l	
104-51-8	n-Butylbenzene	ND	250	34	ug/l	
135-98-8	sec-Butylbenzene	ND	250	28	ug/l	
98-06-6	tert-Butylbenzene	ND	250	32	ug/l	
75-15-0	Carbon disulfide	ND	250	31	ug/l	
56-23-5	Carbon tetrachloride	ND	50	43	ug/l	
108-90-7	Chlorobenzene	ND	50	23	ug/l	
75-00-3	Chloroethane	ND	100	25	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	250	39	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	100	37	ug/l	
95-49-8	o-Chlorotoluene	ND	250	32	ug/l	
106-43-4	p-Chlorotoluene	ND	250	24	ug/l	
124-48-1	Dibromochloromethane	ND	50	26	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	46	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	23	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	32	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	86	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	31	ug/l	
107-06-2	1,2-Dichloroethane	ND	50	32	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	21	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	32	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	47	ug/l	

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## Report of Analysis

Client Sample ID:	P57-ROX-080612	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-5	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	100	36	ug/l	
142-28-9	1,3-Dichloropropane	ND	250	32	ug/l	
594-20-7	2,2-Dichloropropane	ND	250	79	ug/l	
563-58-6	1,1-Dichloropropene	ND	250	46	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	25	22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	25	9.8	ug/l	
123-91-1	1,4-Dioxane	ND	1300	740	ug/l	
97-63-2	Ethyl methacrylate	ND	250	41	ug/l	
100-41-4	Ethylbenzene	795	50	25	ug/l	
87-68-3	Hexachlorobutadiene	ND	250	100	ug/l	
591-78-6	2-Hexanone	ND	250	98	ug/l	
98-82-8	Isopropylbenzene	ND	250	25	ug/l	
99-87-6	p-Isopropyltoluene	ND	250	29	ug/l	
1634-04-4	Methyl Tert Butyl Ether	238	50	21	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	150	ug/l	
74-95-3	Methylene bromide	ND	250	55	ug/l	
75-09-2	Methylene chloride	ND	100	42	ug/l	
103-65-1	n-Propylbenzene	ND	250	29	ug/l	
100-42-5	Styrene	ND	250	23	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	29	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	30	ug/l	
127-18-4	Tetrachloroethene	ND	50	21	ug/l	
108-88-3	Toluene	57.7	50	25	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	250	53	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	250	64	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	39	ug/l	
75-69-4	Trichlorofluoromethane	ND	50	14	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	250	42	ug/l	
95-63-6	1,2,4-Trimethylbenzene	506	250	17	ug/l	
108-67-8	1,3,5-Trimethylbenzene	123	250	23	ug/l	J
108-05-4	Vinyl Acetate	ND	250	50	ug/l	
75-01-4	Vinyl chloride	ND	50	31	ug/l	
	m,p-Xylene	740	50	37	ug/l	
95-47-6	o-Xylene	32.8	50	29	ug/l	J
1330-20-7	Xylene (total)	773	50	29	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	78%	90%	70-130%
2037-26-5	Toluene-D8	95%	95%	70-130%
460-00-4	4-Bromofluorobenzene	92%	102%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (c) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56734.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	2.9	10	2.7	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	1.3	10	0.75	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	69.7	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	0.79	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	0.87	5.0	0.36	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.96	5.0	0.19	ug/l	JB
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	83%		15-110%
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9135.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.56	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.10	0.10	0.013	ug/l	
120-12-7	Anthracene	0.073	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.60	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	24.4	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	32.3	0.20	0.052	ug/l	
91-20-3	Naphthalene	119	0.10	0.036	ug/l	
85-01-8	Phenanthrene	0.53	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-5	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15927.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.3 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	92%		36-173%
460-00-4	Bromofluorobenzene (S)	125%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66797.D	1	08/17/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66844.D	500	08/20/12	AMY	n/a	n/a	MSN2514

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>b</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	106000 <sup>c</sup>	250	120	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	10.7	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	12.4	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P57-ROX-080612-DUP	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-6	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	759	1.0	0.51	ug/l	E
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	43.2	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	10.9	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	212	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	51.9	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	55.8	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	505	5.0	0.35	ug/l	E
108-67-8	1,3,5-Trimethylbenzene	137	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	692	1.0	0.73	ug/l	
95-47-6	o-Xylene	34.8	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	727	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%	92%	70-130%
2037-26-5	Toluene-D8	93%	96%	70-130%
460-00-4	4-Bromofluorobenzene	88%	100%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (c) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56735.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	2.9	10	2.7	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	1.3	10	0.75	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	92.1	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	0.73	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	0.89	5.0	0.36	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	1.0	5.0	0.19	ug/l	JB
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	81%		15-110%
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9136.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.51	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.10	0.10	0.013	ug/l	
120-12-7	Anthracene	0.064	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.63	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	24.2	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	31.1	0.20	0.052	ug/l	
91-20-3	Naphthalene	115	0.10	0.036	ug/l	
85-01-8	Phenanthrene	0.54	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	98%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P57-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-6	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15928.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.2 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		36-173%
460-00-4	Bromofluorobenzene (S)	129%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66801.D	20	08/17/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66845.D	1000	08/20/12	AMY	n/a	n/a	MSN2514

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	60	ug/l	
107-02-8	Acrolein <sup>b</sup>	ND	500	200	ug/l	
107-13-1	Acrylonitrile	ND	100	65	ug/l	
71-43-2	Benzene	313000 <sup>c</sup>	500	240	ug/l	
108-86-1	Bromobenzene	ND	100	12	ug/l	
74-97-5	Bromochloromethane	ND	100	24	ug/l	
75-27-4	Bromodichloromethane	ND	20	12	ug/l	
75-25-2	Bromoform	ND	20	16	ug/l	
74-83-9	Bromomethane	ND	40	20	ug/l	
78-93-3	2-Butanone (MEK)	ND	100	48	ug/l	
104-51-8	n-Butylbenzene	ND	100	14	ug/l	
135-98-8	sec-Butylbenzene	ND	100	11	ug/l	
98-06-6	tert-Butylbenzene	31.7	100	13	ug/l	J
75-15-0	Carbon disulfide	ND	100	12	ug/l	
56-23-5	Carbon tetrachloride	ND	20	17	ug/l	
108-90-7	Chlorobenzene	ND	20	9.4	ug/l	
75-00-3	Chloroethane	ND	40	10	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	100	16	ug/l	
67-66-3	Chloroform	ND	20	9.9	ug/l	
74-87-3	Chloromethane	ND	40	15	ug/l	
95-49-8	o-Chlorotoluene	ND	100	13	ug/l	
106-43-4	p-Chlorotoluene	ND	100	9.7	ug/l	
124-48-1	Dibromochloromethane	ND	20	11	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	19	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	9.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	40	35	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	12	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	13	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	8.2	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	13	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	19	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P58-ROX-080612	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-7	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	40	14	ug/l	
142-28-9	1,3-Dichloropropane	ND	100	13	ug/l	
594-20-7	2,2-Dichloropropane	ND	100	31	ug/l	
563-58-6	1,1-Dichloropropene	ND	100	18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	9.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.9	ug/l	
123-91-1	1,4-Dioxane	ND	500	300	ug/l	
97-63-2	Ethyl methacrylate	ND	100	16	ug/l	
100-41-4	Ethylbenzene	889	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	100	41	ug/l	
591-78-6	2-Hexanone	ND	100	39	ug/l	
98-82-8	Isopropylbenzene	64.9	100	10	ug/l	J
99-87-6	p-Isopropyltoluene	ND	100	11	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	20	8.2	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	100	58	ug/l	
74-95-3	Methylene bromide	ND	100	22	ug/l	
75-09-2	Methylene chloride	ND	40	17	ug/l	
103-65-1	n-Propylbenzene	90.9	100	12	ug/l	J
100-42-5	Styrene	ND	100	9.1	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	100	11	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	12	ug/l	
127-18-4	Tetrachloroethene	ND	20	8.4	ug/l	
108-88-3	Toluene	117	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	100	21	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	100	26	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	16	ug/l	
75-69-4	Trichlorofluoromethane	ND	20	5.7	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	100	17	ug/l	
95-63-6	1,2,4-Trimethylbenzene	705	100	6.9	ug/l	
108-67-8	1,3,5-Trimethylbenzene	95.5	100	9.3	ug/l	J
108-05-4	Vinyl Acetate	ND	100	20	ug/l	
75-01-4	Vinyl chloride	ND	20	13	ug/l	
	m,p-Xylene	652	20	15	ug/l	
95-47-6	o-Xylene	97.6	20	12	ug/l	
1330-20-7	Xylene (total)	749	20	12	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	78%	91%	70-130%
2037-26-5	Toluene-D8	93%	97%	70-130%
460-00-4	4-Bromofluorobenzene	95%	100%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (c) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56737.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	14.6	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	150	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	2.2	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.53	5.0	0.36	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.43	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.7  
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## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9147.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2	U9174.D	10	08/13/12	NS	08/08/12	OP29962	MSU508

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.86	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.29	0.10	0.013	ug/l	
120-12-7	Anthracene	0.094	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	0.24	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	0.11	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	0.064	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.043	0.10	0.038	ug/l	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	0.10	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.068	0.10	0.033	ug/l	J
86-73-7	Fluorene	1.4	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	52.4	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	69.1	0.20	0.052	ug/l	
91-20-3	Naphthalene	142 <sup>a</sup>	1.0	0.36	ug/l	
85-01-8	Phenanthrene	1.0	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%	80%	30-130%
321-60-8	2-Fluorobiphenyl	79%	84%	30-130%
1718-51-0	Terphenyl-d14	95%	111%	30-130%

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-7	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15929.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.9 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	99%		36-173%
460-00-4	Bromofluorobenzene (S)	116%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.7  
4

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-8	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66802.D	10	08/17/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66846.D	1000	08/20/12	AMY	n/a	n/a	MSN2514

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	30	ug/l	
107-02-8	Acrolein <sup>b</sup>	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	308000 <sup>c</sup>	500	240	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	17.6	50	5.5	ug/l	J
98-06-6	tert-Butylbenzene	33.9	50	6.4	ug/l	J
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P58-ROX-080612-DUP	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-8	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	931	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	71.8	50	5.0	ug/l	
99-87-6	p-Isopropyltoluene	11.8	50	5.7	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	99.6	50	5.8	ug/l	
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	128	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	737	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	102	50	4.7	ug/l	
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	656	10	7.3	ug/l	
95-47-6	o-Xylene	104	10	5.8	ug/l	
1330-20-7	Xylene (total)	759	10	5.8	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612-DUP		<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-8		<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	75%	92%	70-130%
2037-26-5	Toluene-D8	92%	97%	70-130%
460-00-4	4-Bromofluorobenzene	92%	98%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (c) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-8	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F56738.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
Run #2	F56977.D	5	08/21/12	KR	08/08/12	OP29961	MSF2704

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	19.5	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	190 <sup>a</sup>	25	4.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	2.5	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.63	5.0	0.36	ug/l	JB
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	P58-ROX-080612-DUP	Date Sampled:	08/06/12
Lab Sample ID:	MC12905-8	Date Received:	08/07/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.42	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%	34%	15-110%
4165-62-2	Phenol-d5	43%	37%	15-110%
118-79-6	2,4,6-Tribromophenol	88%	80%	15-110%
4165-60-0	Nitrobenzene-d5	76%	68%	30-130%
321-60-8	2-Fluorobiphenyl	74%	70%	30-130%
1718-51-0	Terphenyl-d14	88%	80%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-8	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9148.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
Run #2	U9175.D	10	08/13/12	NS	08/08/12	OP29962	MSU508

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.98	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.30	0.10	0.013	ug/l	
120-12-7	Anthracene	0.11	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	0.21	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	0.098	0.10	0.017	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.050	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	0.099	0.10	0.073	ug/l	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.066	0.10	0.033	ug/l	J
86-73-7	Fluorene	1.5	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	59.6	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	79.0	0.20	0.052	ug/l	
91-20-3	Naphthalene	150 <sup>a</sup>	1.0	0.36	ug/l	
85-01-8	Phenanthrene	1.1	0.050	0.013	ug/l	
129-00-0	Pyrene	0.21	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%	82%	30-130%
321-60-8	2-Fluorobiphenyl	80%	81%	30-130%
1718-51-0	Terphenyl-d14	96%	103%	30-130%

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P58-ROX-080612-DUP	<b>Date Sampled:</b> 08/06/12
<b>Lab Sample ID:</b> MC12905-8	<b>Date Received:</b> 08/07/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15930.D	1	08/10/12	AP	08/08/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.0 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	101%		36-173%
460-00-4	Bromofluorobenzene (S)	105%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



# Shell Oil Products Chain Of Custody Record



LAB (LOCATION)

XENCO

CALSCEC

OTHER Acornest Labs, 485 Technology Ctr W  
Marlborough, MA 01752 (508-481-6290)

SPL Lab Vendor #

Lab Vendor #

Please Check Appropriate Box:

ENV. SERVICES     MOTIVA RETAIL     SHELL RETAIL

MOTIVA SD&CM     CONSULTANT     LUBES

SHELL PIPELINE     OTHER

Print Bill To Contact Name: Erik Arthur

INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0

PO #

SAP #

DATE: 8/6/12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PHONE: 314-265-1553    FAX: 314-429-0462    EMAIL: erik.arthur@urs.com

SITE ADDRESS: 600 South Central Ave; ROXANA

STATE: IL    COUNTY: ILL

CONTRACT PROJECT #: Roxana Quarterly GW / 21562735.00008

SAMPLER NAME: D. Nathrally, C. Williams

LAB USE ONLY: MC12905

TURNAROUND TIME (CALENDAR DAYS)

STANDARD (10 DAY)     5 DAYS     3 DAYS     2 DAYS     24 HOURS     RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT     UST AGENCY

DELIVERABLES:  LEVEL 1     LEVEL 2     LEVEL 3     LEVEL 4     OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT: Cooler #1    Cooler #2    Cooler #3

REQUESTED ANALYSIS

FIELD NOTES

TEMPERATURE ON RECEIPT

Container PID Readings or Laboratory Notes

SPECIAL INSTRUCTIONS OR NOTES:

\* Please include "J" values on Reports.

\* Please provide sample receipt upon login.

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)
		DATE	TIME		HCL	MSGA	NONE	OTHER							
	-1 TB-080612-HC1-W	8/6/12	00:00	water						2	X				
	-2 TB-080612-ST-W		00:00							2	X				
	-3 P56-ROX-080612		10:15		2		2	2		6	X	X	X		
	-4 P74-ROX-080612		13:10		2		2	2		6	X	X	X		
	-5 P57-ROX-080612		14:00		2		2	2		6	X	X	X		
	-6 P57-ROX-080612-DUP		14:00		2		2	2		6	X	X	X		16A 4J2
	-7 P58-ROX-080612		15:15		2		2	2		6	X	X	X		
	-8 P58-ROX-080612-DUP		15:15		2		2	2		6	X	X	X		

Requested by (Signature): D. Nathrally    Received by (Signature): FED EX    Date: 8/6/12    Time: 1730

Requested by (Signature): FED EX    Received by (Signature): [Signature]    Date: 8/7/12    Time: 09:15

05/2005 Revision  
acc 0.8°, 1.0°

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## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC12905      Client: URS      Immediate Client Services Action Required: No  
 Date / Time Received: 8/7/2012      Delivery Method: \_\_\_\_\_      Client Service Action Required at Login: No  
 Project: 900 SO CENTRAL ROXANA      No. Coolers: 1      Airbill #'s: \_\_\_\_\_

**Cooler Security**      Y or N      Y or N  
 1. Custody Seals Present:        3. COC Present:    
 2. Custody Seals Intact:        4. Smpl Dates/Time OK:

**Cooler Temperature**      Y or N  
 1. Temp criteria achieved:    
 2. Cooler temp verification: Infrared gun  
 3. Cooler media: Ice (bag)

**Quality Control Preservation**      Y or N      N/A  
 1. Trip Blank present / cooler:     
 2. Trip Blank listed on COC:     
 3. Samples preserved properly:    
 4. VOCs headspace free:

**Sample Integrity - Documentation**      Y or N  
 1. Sample labels present on bottles:    
 2. Container labeling complete:    
 3. Sample container label / COC agree:

**Sample Integrity - Condition**      Y or N  
 1. Sample recvd within HT:    
 2. All containers accounted for:    
 3. Condition of sample: Intact

**Sample Integrity - Instructions**      Y or N      N/A  
 1. Analysis requested is clear:    
 2. Bottles received for unspecified tests:    
 3. Sufficient volume recvd for analysis:    
 4. Compositing instructions clear:     
 5. Filtering instructions clear:

Comments

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12905

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

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Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12905-1 Collected: 06-AUG-12 00:00 By: DMCW Received: 07-AUG-12 By: TB-080612-HCL-W						
MC12905-1	SW846 8260B	17-AUG-12 20:09	JP			V8260SL +
MC12905-2 Collected: 06-AUG-12 00:00 By: DMCW Received: 07-AUG-12 By: TB-080612-ST-W						
MC12905-2	SW846 8011	10-AUG-12 02:32	AP	08-AUG-12	SC	V8011SL
MC12905-3 Collected: 06-AUG-12 10:15 By: DMCW Received: 07-AUG-12 By: P56-ROX-080612						
MC12905-3	SW846 8011	10-AUG-12 02:57	AP	08-AUG-12	SC	V8011SL
MC12905-3	SW846 8270C	10-AUG-12 12:55	KR	08-AUG-12	AJ	AB8270SL +
MC12905-3	SW846 8270C BY SIM	10-AUG-12 15:51	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-3	SW846 8260B	20-AUG-12 15:21	TT			V8260SL +
MC12905-4 Collected: 06-AUG-12 13:10 By: DMCW Received: 07-AUG-12 By: P74-ROX-080612						
MC12905-4	SW846 8011	10-AUG-12 03:21	AP	08-AUG-12	SC	V8011SL
MC12905-4	SW846 8270C	10-AUG-12 13:17	KR	08-AUG-12	AJ	AB8270SL +
MC12905-4	SW846 8270C BY SIM	10-AUG-12 16:14	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-4	SW846 8260B	17-AUG-12 22:02	JP			V8260SL +
MC12905-5 Collected: 06-AUG-12 14:00 By: DMCW Received: 07-AUG-12 By: P57-ROX-080612						
MC12905-5	SW846 8011	10-AUG-12 04:10	AP	08-AUG-12	SC	V8011SL
MC12905-5	SW846 8270C	10-AUG-12 13:40	KR	08-AUG-12	AJ	AB8270SL +
MC12905-5	SW846 8270C BY SIM	10-AUG-12 16:37	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-5	SW846 8260B	17-AUG-12 22:30	JP			V8260SL +
MC12905-5	SW846 8260B	20-AUG-12 12:39	AMY			V8260SL +
MC12905-6 Collected: 06-AUG-12 14:00 By: DMCW Received: 07-AUG-12 By: P57-ROX-080612-DUP						
MC12905-6	SW846 8011	10-AUG-12 04:34	AP	08-AUG-12	SC	V8011SL
MC12905-6	SW846 8270C	10-AUG-12 14:03	KR	08-AUG-12	AJ	AB8270SL +

### Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12905

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

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Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12905-6	SW846 8270C BY SIM	10-AUG-12 16:59	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-6	SW846 8260B	17-AUG-12 21:06	JP			V8260SL +
MC12905-6	SW846 8260B	20-AUG-12 13:07	AMY			V8260SL +
MC12905-7 Collected: 06-AUG-12 15:15 By: DMCW Received: 07-AUG-12 By: P58-ROX-080612						
MC12905-7	SW846 8011	10-AUG-12 04:59	AP	08-AUG-12	SC	V8011SL
MC12905-7	SW846 8270C	10-AUG-12 14:48	KR	08-AUG-12	AJ	AB8270SL +
MC12905-7	SW846 8270C BY SIM	10-AUG-12 21:11	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-7	SW846 8270C BY SIM	13-AUG-12 14:59	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-7	SW846 8260B	17-AUG-12 22:58	JP			V8260SL +
MC12905-7	SW846 8260B	20-AUG-12 13:35	AMY			V8260SL +
MC12905-8 Collected: 06-AUG-12 15:15 By: DMCW Received: 07-AUG-12 By: P58-ROX-080612-DUP						
MC12905-8	SW846 8011	10-AUG-12 05:23	AP	08-AUG-12	SC	V8011SL
MC12905-8	SW846 8270C	10-AUG-12 15:11	KR	08-AUG-12	AJ	AB8270SL +
MC12905-8	SW846 8270C BY SIM	10-AUG-12 21:34	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-8	SW846 8270C BY SIM	13-AUG-12 15:23	NS	08-AUG-12	AJ	B8270SIMP AH
MC12905-8	SW846 8260B	17-AUG-12 23:27	JP			V8260SL +
MC12905-8	SW846 8260B	20-AUG-12 14:03	AMY			V8260SL +
MC12905-8	SW846 8270C	21-AUG-12 11:55	KR	08-AUG-12	AJ	AB8270SL +



# SGS Accutest Internal Chain of Custody

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Received: 08/07/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12905-1.1	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-1.1	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-1.1	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-1.1	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-1.1	Scott Parsick		10/23/12 13:15	Disposed
MC12905-2.1	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-2.1	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-3.1	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage
MC12905-3.1	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-3.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-3.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-3.5	VOC Ref #4	Amy Min Yang	08/20/12 11:29	Retrieve from Storage
MC12905-3.5	Amy Min Yang	GCMSV	08/20/12 11:29	Load on Instrument
MC12905-3.5	GCMSV	Amy Min Yang	08/22/12 13:24	Unload from Instrument
MC12905-3.5	Amy Min Yang	VOC Ref #4	08/22/12 13:25	Return to Storage
MC12905-3.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-3.6	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-3.6	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-3.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-3.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-3.6	Scott Parsick		10/23/12 13:15	Disposed
MC12905-4.2	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage
MC12905-4.2	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-4.4	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-4.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-4.5	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12905-4.5	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12905-4.5	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12905-4.5	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12905-4.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-4.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-4.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-4.6	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-4.6	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-4.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument

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# SGS Accutest Internal Chain of Custody

**Job Number:** MC12905  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/07/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12905-4.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-4.6	Scott Parsick		10/23/12 13:15	Disposed
MC12905-5.2	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage
MC12905-5.2	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-5.4	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-5.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-5.5	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-5.5	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-5.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-5.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-5.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-5.6	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12905-5.6	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12905-5.6	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12905-5.6	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12905-5.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-5.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-5.6	Scott Parsick		10/23/12 13:15	Disposed
MC12905-6.1	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage
MC12905-6.1	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-6.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-6.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-6.5	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12905-6.5	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12905-6.5	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12905-6.5	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12905-6.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-6.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-6.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-6.6	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-6.6	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-6.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-6.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-6.6	Scott Parsick		10/23/12 13:15	Disposed
MC12905-7.2	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage

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# SGS Accutest Internal Chain of Custody

**Job Number:** MC12905  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/07/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12905-7.2	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-7.3	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-7.3	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-7.5	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-7.5	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-7.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-7.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-7.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-7.6	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12905-7.6	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12905-7.6	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12905-7.6	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12905-7.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-7.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-7.6	Scott Parsick		10/23/12 13:15	Disposed
MC12905-8.2	Walk In Ref #22	Nick Krasinski	08/08/12 14:48	Retrieve from Storage
MC12905-8.2	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-8.4	VOC Ref #4	Nick Krasinski	08/08/12 14:44	Retrieve from Storage
MC12905-8.4	Nick Krasinski		08/08/12 23:10	Depleted
MC12905-8.5	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12905-8.5	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12905-8.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-8.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-8.5	Scott Parsick		10/23/12 13:15	Disposed
MC12905-8.6	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12905-8.6	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12905-8.6	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12905-8.6	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12905-8.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12905-8.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12905-8.6	Scott Parsick		10/23/12 13:15	Disposed

**GC/MS Volatiles**

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**QC Data Summaries**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	85%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-MB	P63624.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	



# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-MB	P63624.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-MB	P63624.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	94% 70-130%
2037-26-5	Toluene-D8	102% 70-130%
460-00-4	4-Bromofluorobenzene	119% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.2  
6

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-MB	N66838.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

6.1.3  
6

# Blank Spike Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-BS	P63621.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	48.2	96	70-130
107-02-8	Acrolein	250	211	84	70-130
107-13-1	Acrylonitrile	50	50.6	101	70-130
71-43-2	Benzene	50	48.0	96	70-130
108-86-1	Bromobenzene	50	52.8	106	70-130
74-97-5	Bromochloromethane	50	55.2	110	70-130
75-27-4	Bromodichloromethane	50	49.9	100	70-130
75-25-2	Bromoform	50	46.5	93	70-130
74-83-9	Bromomethane	50	49.9	100	70-130
78-93-3	2-Butanone (MEK)	50	49.3	99	70-130
104-51-8	n-Butylbenzene	50	54.4	109	70-130
135-98-8	sec-Butylbenzene	50	58.9	118	70-130
98-06-6	tert-Butylbenzene	50	57.9	116	70-130
75-15-0	Carbon disulfide	50	45.0	90	70-130
56-23-5	Carbon tetrachloride	50	50.1	100	70-130
108-90-7	Chlorobenzene	50	54.8	110	70-130
75-00-3	Chloroethane	50	45.1	90	70-130
110-75-8	2-Chloroethyl vinyl ether	50	37.5	75	70-130
67-66-3	Chloroform	50	49.7	99	70-130
74-87-3	Chloromethane	50	50.3	101	70-130
95-49-8	o-Chlorotoluene	50	55.3	111	70-130
106-43-4	p-Chlorotoluene	50	57.0	114	70-130
124-48-1	Dibromochloromethane	50	52.3	105	70-130
95-50-1	1,2-Dichlorobenzene	50	55.3	111	70-130
541-73-1	1,3-Dichlorobenzene	50	54.3	109	70-130
106-46-7	1,4-Dichlorobenzene	50	52.3	105	70-130
75-71-8	Dichlorodifluoromethane	50	61.6	123	70-130
75-34-3	1,1-Dichloroethane	50	49.5	99	70-130
107-06-2	1,2-Dichloroethane	50	49.1	98	70-130
75-35-4	1,1-Dichloroethene	50	48.7	97	70-130
156-59-2	cis-1,2-Dichloroethene	50	49.4	99	70-130
156-60-5	trans-1,2-Dichloroethene	50	47.9	96	70-130
78-87-5	1,2-Dichloropropane	50	51.1	102	70-130
142-28-9	1,3-Dichloropropane	50	53.1	106	70-130
594-20-7	2,2-Dichloropropane	50	34.9	70	70-130
563-58-6	1,1-Dichloropropene	50	53.4	107	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-BS	P63621.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	43.6	87	70-130
10061-02-6	trans-1,3-Dichloropropene	50	45.2	90	70-130
123-91-1	1,4-Dioxane	250	248	99	70-130
97-63-2	Ethyl methacrylate	50	47.1	94	77-137
100-41-4	Ethylbenzene	50	52.9	106	70-130
87-68-3	Hexachlorobutadiene	50	51.2	102	70-130
591-78-6	2-Hexanone	50	52.3	105	70-130
98-82-8	Isopropylbenzene	50	57.8	116	70-130
99-87-6	p-Isopropyltoluene	50	56.2	112	70-130
1634-04-4	Methyl Tert Butyl Ether	50	47.4	95	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.9	98	70-130
74-95-3	Methylene bromide	50	51.0	102	70-130
75-09-2	Methylene chloride	50	46.3	93	70-130
103-65-1	n-Propylbenzene	50	57.6	115	70-130
100-42-5	Styrene	50	55.1	110	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	55.3	111	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	50.5	101	70-130
127-18-4	Tetrachloroethene	50	54.1	108	70-130
108-88-3	Toluene	50	51.3	103	70-130
87-61-6	1,2,3-Trichlorobenzene	50	53.0	106	70-130
120-82-1	1,2,4-Trichlorobenzene	50	50.1	100	70-130
71-55-6	1,1,1-Trichloroethane	50	49.0	98	70-130
79-00-5	1,1,2-Trichloroethane	50	53.4	107	70-130
79-01-6	Trichloroethene	50	52.8	106	70-130
75-69-4	Trichlorofluoromethane	50	50.8	102	70-130
96-18-4	1,2,3-Trichloropropane	50	49.7	99	70-130
95-63-6	1,2,4-Trimethylbenzene	50	51.9	104	70-130
108-67-8	1,3,5-Trimethylbenzene	50	51.5	103	70-130
108-05-4	Vinyl Acetate	50	31.6	63* a	70-130
75-01-4	Vinyl chloride	50	47.0	94	70-130
	m,p-Xylene	100	110	110	70-130
95-47-6	o-Xylene	50	57.1	114	70-130
1330-20-7	Xylene (total)	150	167	111	70-130

\* = Outside of Control Limits.

## Blank Spike Summary

Job Number: MC12905

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2072-BS	P63621.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	111%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	46.7	93	50.9	102	9	70-130/25
107-02-8	Acrolein	250	370	148* a	410	164* a	10	70-130/25
107-13-1	Acrylonitrile	50	223	446* b	221	442* b	1	70-130/25
71-43-2	Benzene	50	46.9	94	47.5	95	1	70-130/25
108-86-1	Bromobenzene	50	49.0	98	54.0	108	10	70-130/25
74-97-5	Bromochloromethane	50	47.3	95	46.9	94	1	70-130/25
75-27-4	Bromodichloromethane	50	47.2	94	46.7	93	1	70-130/25
75-25-2	Bromoform	50	53.8	108	53.1	106	1	70-130/25
74-83-9	Bromomethane	50	56.7	113	63.5	127	11	70-130/25
78-93-3	2-Butanone (MEK)	50	44.3	89	43.3	87	2	70-130/25
104-51-8	n-Butylbenzene	50	47.1	94	48.8	98	4	70-130/25
135-98-8	sec-Butylbenzene	50	53.5	107	55.4	111	3	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	53.6	107	6	70-130/25
75-15-0	Carbon disulfide	50	42.5	85	46.3	93	9	70-130/25
56-23-5	Carbon tetrachloride	50	51.1	102	48.9	98	4	70-130/25
108-90-7	Chlorobenzene	50	56.0	112	56.9	114	2	70-130/25
75-00-3	Chloroethane	50	42.2	84	49.1	98	15	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	47.0	94	48.0	96	2	70-130/25
67-66-3	Chloroform	50	41.4	83	42.3	85	2	70-130/25
74-87-3	Chloromethane	50	57.7	115	62.0	124	7	70-130/25
95-49-8	o-Chlorotoluene	50	48.2	96	52.2	104	8	70-130/25
106-43-4	p-Chlorotoluene	50	49.4	99	54.8	110	10	70-130/25
124-48-1	Dibromochloromethane	50	56.4	113	56.9	114	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	51.4	103	51.8	104	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	51.4	103	53.6	107	4	70-130/25
106-46-7	1,4-Dichlorobenzene	50	49.7	99	51.7	103	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	58.9	118	65.7	131* a	11	70-130/25
75-34-3	1,1-Dichloroethane	50	44.2	88	43.4	87	2	70-130/25
107-06-2	1,2-Dichloroethane	50	44.8	90	42.8	86	5	70-130/25
75-35-4	1,1-Dichloroethene	50	46.0	92	50.9	102	10	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	46.1	92	46.5	93	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	46.3	93	45.8	92	1	70-130/25
78-87-5	1,2-Dichloropropane	50	46.7	93	47.7	95	2	70-130/25
142-28-9	1,3-Dichloropropane	50	47.3	95	48.9	98	3	70-130/25
594-20-7	2,2-Dichloropropane	50	45.2	90	45.6	91	1	70-130/25
563-58-6	1,1-Dichloropropene	50	47.9	96	46.6	93	3	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples: Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	54.2	108	50.2	100	8	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	51.6	103	48.3	97	7	70-130/25
123-91-1	1,4-Dioxane	250	285	114	241	96	17	70-130/25
97-63-2	Ethyl methacrylate	50	55.4	111	50.7	101	9	77-137/25
100-41-4	Ethylbenzene	50	49.3	99	51.3	103	4	70-130/25
87-68-3	Hexachlorobutadiene	50	50.6	101	55.9	112	10	70-130/25
591-78-6	2-Hexanone	50	52.9	106	51.0	102	4	70-130/25
98-82-8	Isopropylbenzene	50	52.2	104	56.0	112	7	70-130/25
99-87-6	p-Isopropyltoluene	50	54.5	109	56.5	113	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	47.0	94	46.5	93	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.1	104	46.1	92	12	70-130/25
74-95-3	Methylene bromide	50	50.2	100	49.6	99	1	70-130/25
75-09-2	Methylene chloride	50	42.4	85	46.7	93	10	70-130/25
103-65-1	n-Propylbenzene	50	51.2	102	56.2	112	9	70-130/25
100-42-5	Styrene	50	55.6	111	57.2	114	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.3	107	53.7	107	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.7	97	49.5	99	2	70-130/25
127-18-4	Tetrachloroethene	50	54.2	108	56.6	113	4	70-130/25
108-88-3	Toluene	50	52.4	105	50.1	100	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	48.1	96	52.3	105	8	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	48.5	97	52.4	105	8	70-130/25
71-55-6	1,1,1-Trichloroethane	50	41.0	82	45.0	90	9	70-130/25
79-00-5	1,1,2-Trichloroethane	50	47.9	96	45.1	90	6	70-130/25
79-01-6	Trichloroethene	50	45.8	92	46.7	93	2	70-130/25
75-69-4	Trichlorofluoromethane	50	36.8	74	41.6	83	12	70-130/25
96-18-4	1,2,3-Trichloropropane	50	48.3	97	48.0	96	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	52.7	105	6	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.0	96	51.8	104	8	70-130/25
108-05-4	Vinyl Acetate	50	55.2	110	55.8	112	1	70-130/25
75-01-4	Vinyl chloride	50	47.3	95	51.8	104	9	70-130/25
	m,p-Xylene	100	109	109	111	111	2	70-130/25
95-47-6	o-Xylene	50	57.5	115	59.6	119	4	70-130/25
1330-20-7	Xylene (total)	150	166	111	171	114	3	70-130/25

\* = Outside of Control Limits.



# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	82%	83%	70-130%
2037-26-5	Toluene-D8	102%	97%	70-130%
460-00-4	4-Bromofluorobenzene	87%	96%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-BS	N66835.D	1	08/20/12	AMY	n/a	n/a	MSN2514
MSN2514-BSD	N66836.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	47.4	95	42.2	84	12	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	91%	90%	70-130%
2037-26-5	Toluene-D8	98%	97%	70-130%
460-00-4	4-Bromofluorobenzene	93%	96%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12870-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
67-64-1	Acetone	ND		500	777	155* a	500	815	163* a	5	70-130/30
107-02-8	Acrolein	ND		2500	3920	157* a	2500	3950	158* a	1	70-130/30
107-13-1	Acrylonitrile	ND		500	2310	462* b	500	2160	432* b	7	70-130/30
71-43-2	Benzene	13.1		500	478	93	500	477	93	0	70-130/30
108-86-1	Bromobenzene	ND		500	486	97	500	493	99	1	70-130/30
74-97-5	Bromochloromethane	ND		500	464	93	500	465	93	0	70-130/30
75-27-4	Bromodichloromethane	ND		500	438	88	500	445	89	2	70-130/30
75-25-2	Bromoform	ND		500	498	100	500	503	101	1	70-130/30
74-83-9	Bromomethane	ND		500	541	108	500	567	113	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		500	433	87	500	456	91	5	70-130/30
104-51-8	n-Butylbenzene	1.5	J	500	474	95	500	494	99	4	70-130/30
135-98-8	sec-Butylbenzene	2.7	J	500	533	106	500	551	110	3	70-130/30
98-06-6	tert-Butylbenzene	ND		500	499	100	500	507	101	2	70-130/30
75-15-0	Carbon disulfide	ND		500	434	87	500	435	87	0	70-130/30
56-23-5	Carbon tetrachloride	ND		500	483	97	500	470	94	3	70-130/30
108-90-7	Chlorobenzene	ND		500	557	111	500	554	111	1	70-130/30
75-00-3	Chloroethane	ND		500	444	89	500	435	87	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		500	466	93	500	460	92	1	70-130/30
67-66-3	Chloroform	ND		500	397	79	500	404	81	2	70-130/30
74-87-3	Chloromethane	ND		500	534	107	500	569	114	6	70-130/30
95-49-8	o-Chlorotoluene	ND		500	472	94	500	485	97	3	70-130/30
106-43-4	p-Chlorotoluene	ND		500	483	97	500	503	101	4	70-130/30
124-48-1	Dibromochloromethane	ND		500	543	109	500	544	109	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		500	503	101	500	527	105	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		500	503	101	500	519	104	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		500	482	96	500	495	99	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		500	634	127	500	615	123	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		500	416	83	500	419	84	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		500	420	84	500	417	83	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		500	471	94	500	467	93	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		500	430	86	500	446	89	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		500	448	90	500	440	88	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		500	463	93	500	457	91	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		500	459	92	500	469	94	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		500	425	85	500	435	87	2	70-130/30
563-58-6	1,1-Dichloropropene	ND		500	457	91	500	460	92	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12870-4		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
10061-01-5	cis-1,3-Dichloropropene	ND		494	99	500	482	96	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		456	91	500	463	93	2	70-130/30
123-91-1	1,4-Dioxane	ND		2500	101	2500	2410	96	4	70-130/30
97-63-2	Ethyl methacrylate	ND		490	98	500	493	99	1	72-139/30
100-41-4	Ethylbenzene	0.65	J	501	100	500	493	98	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		510	102	500	552	110	8	70-130/30
591-78-6	2-Hexanone	ND		505	101	500	523	105	4	70-130/30
98-82-8	Isopropylbenzene	17.3		540	105	500	546	106	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		535	107	500	553	111	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		451	90	500	477	95	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		479	96	500	502	100	5	70-130/30
74-95-3	Methylene bromide	ND		464	93	500	472	94	2	70-130/30
75-09-2	Methylene chloride	ND		409	82	500	414	83	1	70-130/30
103-65-1	n-Propylbenzene	13.7		530	103	500	538	105	1	70-130/30
100-42-5	Styrene	ND		550	110	500	550	110	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		532	106	500	519	104	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		473	95	500	501	100	6	70-130/30
127-18-4	Tetrachloroethene	ND		558	112	500	536	107	4	70-130/30
108-88-3	Toluene	0.93	J	482	96	500	483	96	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		490	98	500	526	105	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		489	98	500	522	104	7	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		411	82	500	405	81	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		438	88	500	440	88	0	70-130/30
79-01-6	Trichloroethene	ND		452	90	500	446	89	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		378	76	500	371	74	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		456	91	500	482	96	6	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		490	98	500	498	100	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		470	94	500	478	96	2	70-130/30
108-05-4	Vinyl Acetate	ND		528	106	500	572	114	8	70-130/30
75-01-4	Vinyl chloride	ND		470	94	500	467	93	1	70-130/30
	m,p-Xylene	3.3		1140	114	1000	1120	112	2	70-130/30
95-47-6	o-Xylene	0.61	J	592	118	500	577	115	3	70-130/30
1330-20-7	Xylene (total)	3.9		1740	116	1500	1700	113	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-1, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Surrogate Recoveries	MS	MSD	MC12870-4	Limits
1868-53-7	Dibromofluoromethane	82%	81%	82%	70-130%
2037-26-5	Toluene-D8	97%	94%	96%	70-130%
460-00-4	4-Bromofluorobenzene	89%	92%	89%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13089-8MS	P63643.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8MSD	P63644.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8	P63626.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	MC13089-8 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	250	222	89	250	236	94	6	70-130/30
107-02-8	Acrolein	ND	1250	1200	96	1250	1290	103	7	70-130/30
107-13-1	Acrylonitrile	ND	250	240	96	250	258	103	7	70-130/30
71-43-2	Benzene	ND	250	228	91	250	236	94	3	70-130/30
108-86-1	Bromobenzene	ND	250	239	96	250	265	106	10	70-130/30
74-97-5	Bromochloromethane	ND	250	242	97	250	260	104	7	70-130/30
75-27-4	Bromodichloromethane	ND	250	236	94	250	247	99	5	70-130/30
75-25-2	Bromoform	ND	250	217	87	250	233	93	7	70-130/30
74-83-9	Bromomethane	ND	250	173	69* a	250	198	79	13	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	216	86	250	246	98	13	70-130/30
104-51-8	n-Butylbenzene	ND	250	243	97	250	270	108	11	70-130/30
135-98-8	sec-Butylbenzene	ND	250	263	105	250	291	116	10	70-130/30
98-06-6	tert-Butylbenzene	ND	250	264	106	250	287	115	8	70-130/30
75-15-0	Carbon disulfide	ND	250	193	77	250	206	82	7	70-130/30
56-23-5	Carbon tetrachloride	ND	250	228	91	250	234	94	3	70-130/30
108-90-7	Chlorobenzene	ND	250	256	102	250	273	109	6	70-130/30
75-00-3	Chloroethane	ND	250	206	82	250	211	84	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	250	151	60* a	250	170	68* a	12	70-130/30
67-66-3	Chloroform	ND	250	241	96	250	250	100	4	70-130/30
74-87-3	Chloromethane	ND	250	209	84	250	224	90	7	70-130/30
95-49-8	o-Chlorotoluene	ND	250	256	102	250	280	112	9	70-130/30
106-43-4	p-Chlorotoluene	ND	250	263	105	250	288	115	9	70-130/30
124-48-1	Dibromochloromethane	ND	250	240	96	250	260	104	8	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	252	101	250	277	111	9	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	249	100	250	272	109	9	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	235	94	250	261	104	10	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	228	91	250	234	94	3	70-130/30
75-34-3	1,1-Dichloroethane	ND	250	236	94	250	247	99	5	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	236	94	250	250	100	6	70-130/30
75-35-4	1,1-Dichloroethene	ND	250	216	86	250	225	90	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	250	234	94	250	243	97	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	215	86	250	232	93	8	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	245	98	250	257	103	5	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	249	100	250	268	107	7	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	184	74	250	199	80	8	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	248	99	250	258	103	4	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13089-8MS	P63643.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8MSD	P63644.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8	P63626.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Compound	MC13089-8 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	250	215	86	250	228	91	6	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	250	221	88	250	236	94	7	70-130/30
123-91-1	1,4-Dioxane	ND	1250	1370	110	1250	1370	110	0	70-130/30
97-63-2	Ethyl methacrylate	ND	250	221	88	250	241	96	9	72-139/30
100-41-4	Ethylbenzene	ND	250	247	99	250	262	105	6	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	221	88	250	249	100	12	70-130/30
591-78-6	2-Hexanone	ND	250	254	102	250	283	113	11	70-130/30
98-82-8	Isopropylbenzene	ND	250	267	107	250	291	116	9	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	253	101	250	277	111	9	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	250	204	82	250	231	92	12	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	238	95	250	260	104	9	70-130/30
74-95-3	Methylene bromide	ND	250	241	96	250	257	103	6	70-130/30
75-09-2	Methylene chloride	ND	250	216	86	250	225	90	4	70-130/30
103-65-1	n-Propylbenzene	ND	250	271	108	250	290	116	7	70-130/30
100-42-5	Styrene	ND	250	255	102	250	272	109	6	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	261	104	250	274	110	5	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	261	104	250	287	115	9	70-130/30
127-18-4	Tetrachloroethene	ND	250	254	102	250	265	106	4	70-130/30
108-88-3	Toluene	ND	250	242	97	250	255	102	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	232	93	250	265	106	13	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	219	88	250	247	99	12	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	232	93	250	240	96	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	255	102	250	268	107	5	70-130/30
79-01-6	Trichloroethene	ND	250	234	94	250	247	99	5	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	212	85	250	220	88	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	244	98	250	270	108	10	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	240	96	250	261	104	8	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	238	95	250	260	104	9	70-130/30
108-05-4	Vinyl Acetate	ND	250	236	94	250	252	101	7	70-130/30
75-01-4	Vinyl chloride	ND	250	189	76	250	207	83	9	70-130/30
	m,p-Xylene	ND	500	514	103	500	547	109	6	70-130/30
95-47-6	o-Xylene	ND	250	269	108	250	283	113	5	70-130/30
1330-20-7	Xylene (total)	ND	750	784	105	750	831	111	6	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13089-8MS	P63643.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8MSD	P63644.D	5	08/20/12	TT	n/a	n/a	MSP2072
MC13089-8	P63626.D	1	08/20/12	TT	n/a	n/a	MSP2072

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12905-3

CAS No.	Surrogate Recoveries	MS	MSD	MC13089-8	Limits
1868-53-7	Dibromofluoromethane	92%	97%	91%	70-130%
2037-26-5	Toluene-D8	98%	102%	97%	70-130%
460-00-4	4-Bromofluorobenzene	107%	115%	112%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12944-15MS	N66855.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15MSD	N66856.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15 <sup>a</sup>	N66847.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples: Method: SW846 8260B

MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12944-15 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q ug/l	ug/l	%	ug/l	ug/l	%		Rec/RPD
71-43-2	Benzene	ND	250	204	82	250	202	81	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC12944-15 Limits	
1868-53-7	Dibromofluoromethane	85%	88%	93%	70-130%
2037-26-5	Toluene-D8	96%	97%	94%	70-130%
460-00-4	4-Bromofluorobenzene	94%	93%	100%	70-130%

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

\* = Outside of Control Limits.

# Volatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2512-CC2468	Injection Date:	08/17/12
Lab File ID:	N66782.D	Injection Time:	13:54
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	152398	9.02	231186	9.89	113397	13.14	114179	15.70	64322	6.56
Upper Limit <sup>a</sup>	304796	9.52	462372	10.39	226794	13.64	228358	16.20	128644	7.06
Lower Limit <sup>b</sup>	76199	8.52	115593	9.39	56699	12.64	57090	15.20	32161	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2512-BS	168359	9.02	240070	9.89	131037	13.14	127328	15.70	61307	6.56
MSN2512-BSD	149437	9.02	248165	9.89	123957	13.14	115078	15.70	55717	6.56
MSN2512-MB	160331	9.02	240599	9.89	119577	13.15	95607	15.70	52979	6.57
ZZZZZZ	141818	9.02	220974	9.89	108889	13.15	90986	15.71	48285	6.58
ZZZZZZ	161924	9.02	241742	9.89	123121	13.14	122197	15.70	61137	6.56
MC12870-4	172211	9.02	257763	9.89	127732	13.15	125716	15.70	53392	6.57
MC12870-4MS	169372	9.02	254380	9.89	127924	13.14	126190	15.70	67500	6.56
MC12870-4MSD	167570	9.02	256902	9.89	130163	13.15	122765	15.70	65039	6.57
MC12905-1	168232	9.02	255625	9.89	122507	13.15	113092	15.70	58241	6.57
ZZZZZZ	162723	9.02	246607	9.89	119504	13.15	108680	15.71	58589	6.57
MC12905-6	165338	9.03	308089	9.90	146653	13.14	142458	15.70	66476	6.56
MC12905-4	185538	9.02	282422	9.89	134586	13.15	128702	15.70	63908	6.57
MC12905-5	188683	9.02	292377	9.89	136531	13.15	127541	15.70	71167	6.57
MC12905-7	190386	9.02	312657	9.89	145931	13.15	135350	15.70	70801	6.57
MC12905-8	205011	9.02	332909	9.89	155770	13.14	145381	15.70	69451	6.56
ZZZZZZ	209507	9.03	349371	9.90	158586	13.14	147822	15.70	72286	6.56
ZZZZZZ	197163	9.02	330863	9.89	154875	13.15	139946	15.70	74190	6.56
ZZZZZZ	211551	9.02	348439	9.89	158491	13.15	148021	15.70	77402	6.56
ZZZZZZ	202409	9.02	313303	9.89	143668	13.15	130293	15.70	73049	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.5.1

6

# Volatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2514-CC2468	Injection Date:	08/20/12
Lab File ID:	N66835.D	Injection Time:	08:49
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
	AREA		AREA		AREA		AREA		AREA	
Check Std	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
Upper Limit <sup>a</sup>	238570	9.52	355844	10.39	202392	13.65	187186	16.20	96770	7.06
Lower Limit <sup>b</sup>	59643	8.52	88961	9.39	50598	12.65	46797	15.20	24193	6.06

Lab	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
Sample ID	AREA		AREA		AREA		AREA		AREA	
MSN2514-BS	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
MSN2514-BSD	131527	9.02	194742	9.89	104163	13.15	97420	15.70	51745	6.56
MSN2514-MB	116175	9.02	175016	9.89	91498	13.15	82202	15.70	53764	6.57
ZZZZZZ	110387	9.02	161728	9.89	85841	13.15	72844	15.71	51759	6.57
ZZZZZZ	103985	9.02	152724	9.89	81698	13.14	79453	15.70	42536	6.57
ZZZZZZ	120794	9.02	180937	9.88	102916	13.15	99655	15.70	52693	6.56
ZZZZZZ	132300	9.02	196454	9.89	102351	13.15	88889	15.70	51415	6.56
MC12905-5 <sup>c</sup>	128302	9.02	189196	9.89	98361	13.15	84824	15.70	53230	6.57
MC12905-6 <sup>c</sup>	115479	9.02	171824	9.89	90654	13.15	77410	15.70	44901	6.57
MC12905-7 <sup>c</sup>	118516	9.02	173218	9.89	90126	13.15	75951	15.70	44246	6.57
MC12905-8 <sup>c</sup>	114874	9.02	171628	9.89	90059	13.15	79557	15.70	41446	6.57
MC12944-15	107209	9.02	160640	9.89	81210	13.15	71103	15.70	41687	6.57
ZZZZZZ	106676	9.01	163106	9.89	86273	13.15	71137	15.70	45130	6.56
ZZZZZZ	107118	9.02	158683	9.89	85706	13.15	74032	15.70	40817	6.57
ZZZZZZ	107424	9.02	161341	9.89	85386	13.15	71739	15.70	43608	6.57
ZZZZZZ	108875	9.02	168961	9.88	97176	13.15	99551	15.70	43349	6.56
MC12944-15MS	143688	9.02	210891	9.89	114622	13.15	105761	15.70	56406	6.56
MC12944-15MSD	140640	9.01	209077	9.88	108708	13.15	104319	15.70	55543	6.56
ZZZZZZ	139105	9.02	208838	9.89	105188	13.14	94258	15.70	55629	6.56
ZZZZZZ	132779	9.02	201615	9.89	102905	13.15	90402	15.70	48467	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

6.5.2  
6

# Volatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSP2072-CC2072	Injection Date:	08/20/12
Lab File ID:	P63620.D	Injection Time:	07:22
Instrument ID:	GCMSP	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	620319	8.25	988758	9.09	506459	12.31	442665	14.87	155840	5.93
Upper Limit <sup>a</sup>	1240638	8.75	1977516	9.59	1012918	12.81	885330	15.37	311680	6.43
Lower Limit <sup>b</sup>	310160	7.75	494379	8.59	253230	11.81	221333	14.37	77920	5.43

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSP2072-BS	646165	8.25	1027686	9.09	524709	12.31	450928	14.87	148276	5.93
MSP2072-MB	617134	8.25	969082	9.10	467774	12.32	378328	14.87	156439	5.94
ZZZZZZ	641595	8.25	1009731	9.10	490625	12.31	399798	14.87	155698	5.94
MC13089-8	624763	8.25	991557	9.10	484555	12.32	391732	14.87	198960	5.94
ZZZZZZ	608344	8.25	963881	9.10	473597	12.32	381671	14.87	212856	5.95
ZZZZZZ	598403	8.25	959157	9.10	473436	12.32	386213	14.87	161937	5.94
ZZZZZZ	617310	8.25	973918	9.10	480357	12.32	379296	14.87	150919	5.95
ZZZZZZ	614678	8.25	967981	9.10	473780	12.32	381894	14.87	157990	5.95
ZZZZZZ	587065	8.25	932162	9.10	456566	12.32	365272	14.87	160901	5.95
ZZZZZZ	593989	8.25	943951	9.10	462593	12.32	362027	14.87	148068	5.95
ZZZZZZ	593904	8.25	935605	9.10	461820	12.32	368254	14.87	161780	5.94
ZZZZZZ	586590	8.25	936537	9.10	457075	12.32	370530	14.87	141003	5.97
ZZZZZZ	598658	8.25	949938	9.10	465139	12.32	369692	14.87	155021	5.97
ZZZZZZ	569592	8.25	901725	9.10	443666	12.32	351568	14.87	144466	5.95
MC12905-3	623617	8.25	981159	9.10	480626	12.31	396946	14.87	181460	5.96
ZZZZZZ	599300	8.25	946407	9.10	484870	12.31	423666	14.87	162747	5.95
ZZZZZZ	703055	8.25	1088471	9.10	514028	12.32	401755	14.87	233196	5.94
ZZZZZZ	723282	8.25	1124081	9.10	543376	12.31	434871	14.87	289351	5.94
ZZZZZZ	580557	8.25	932941	9.10	454677	12.31	389395	14.87	156781	5.95
MC13089-8MS	626849	8.25	1000685	9.09	519190	12.31	453510	14.87	160940	5.95
MC13089-8MSD	611342	8.25	974036	9.10	497495	12.31	422137	14.87	159497	5.94

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Surrogate Recovery Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12905-1	N66795.D	81	94	93
MC12905-3	P63637.D	86	93	108
MC12905-4	N66799.D	76	95	91
MC12905-5	N66843.D	90	95	102
MC12905-5	N66800.D	78	95	92
MC12905-6	N66844.D	92	96	100
MC12905-6	N66797.D	81	93	88
MC12905-7	N66845.D	91	97	100
MC12905-7	N66801.D	78	93	95
MC12905-8	N66846.D	92	97	98
MC12905-8	N66802.D	75	92	92
MC12870-4MS	N66792.D	82	97	89
MC12870-4MSD	N66793.D	81	94	92
MC12944-15MS	N66855.D	85	96	94
MC12944-15MSD	N66856.D	88	97	93
MC13089-8MS	P63643.D	92	98	107
MC13089-8MSD	P63644.D	97	102	115
MSN2512-BS	N66783.D	82	102	87
MSN2512-BSD	N66784.D	83	97	96
MSN2512-MB	N66786.D	85	97	101
MSN2514-BS	N66835.D	91	98	93
MSN2514-BSD	N66836.D	90	97	96
MSN2514-MB	N66838.D	94	96	96
MSP2072-BS	P63621.D	96	102	111
MSP2072-MB	P63624.D	94	102	119

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.6.1  
6

**GC/MS Semi-volatiles****QC Data Summaries****7**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-MB	F56721.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	1.7	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	5.5	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-MB	F56721.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples: Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	37% 15-110%
4165-62-2	Phenol-d5	28% 15-110%
118-79-6	2,4,6-Tribromophenol	76% 15-110%
4165-60-0	Nitrobenzene-d5	67% 30-130%
321-60-8	2-Fluorobiphenyl	65% 30-130%
1718-51-0	Terphenyl-d14	95% 30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7



# Method Blank Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29962-MB	U9127.D	1	08/10/12	NS	08/08/12	OP29962	MSU507

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	0.058	0.10	0.036	ug/l	J
85-01-8	Phenanthrene	0.052	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	77% 30-130%
321-60-8	2-Fluorobiphenyl	67% 30-130%
1718-51-0	Terphenyl-d14	98% 30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-BS	F56723.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	29.9	30	30-130
95-57-8	2-Chlorophenol	100	66.5	67	30-130
59-50-7	4-Chloro-3-methyl phenol	100	77.1	77	30-130
120-83-2	2,4-Dichlorophenol	100	77.4	77	30-130
105-67-9	2,4-Dimethylphenol	100	72.9	73	30-130
51-28-5	2,4-Dinitrophenol	100	59.6	60	30-130
534-52-1	4,6-Dinitro-o-cresol	100	81.1	81	30-130
95-48-7	2-Methylphenol	100	61.4	61	30-130
	3&4-Methylphenol	200	116	58	30-130
88-75-5	2-Nitrophenol	100	79.0	79	30-130
100-02-7	4-Nitrophenol	100	34.5	35	30-130
87-86-5	Pentachlorophenol	100	77.2	77	30-130
108-95-2	Phenol	100	33.9	34	30-130
95-95-4	2,4,5-Trichlorophenol	100	81.7	82	30-130
88-06-2	2,4,6-Trichlorophenol	100	83.2	83	30-130
62-53-3	Aniline	50	4.9	10* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.2	84	40-140
85-68-7	Butyl benzyl phthalate	50	44.8	90	40-140
100-51-6	Benzyl Alcohol	50	31.7	63	40-140
91-58-7	2-Chloronaphthalene	50	39.1	78	40-140
106-47-8	4-Chloroaniline	50	15.9	32* a	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	40.5	81	40-140
111-44-4	bis(2-Chloroethyl)ether	50	37.5	75	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	40.6	81	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	41.8	84	40-140
122-66-7	1,2-Diphenylhydrazine	50	40.6	81	40-140
121-14-2	2,4-Dinitrotoluene	50	44.3	89	40-140
606-20-2	2,6-Dinitrotoluene	50	43.1	86	40-140
91-94-1	3,3'-Dichlorobenzidine	50	2.9	6* a	40-140
132-64-9	Dibenzofuran	50	39.3	79	40-140
84-74-2	Di-n-butyl phthalate	50	43.2	86	40-140
117-84-0	Di-n-octyl phthalate	50	45.1	90	40-140
84-66-2	Diethyl phthalate	50	45.6	91	40-140
131-11-3	Dimethyl phthalate	50	43.3	87	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	43.5	87	40-140
118-74-1	Hexachlorobenzene	50	41.1	82	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-BS	F56723.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	20.7	41	40-140
67-72-1	Hexachloroethane	50	25.9	52	40-140
78-59-1	Isophorone	50	40.1	80	40-140
88-74-4	2-Nitroaniline	50	42.5	85	40-140
99-09-2	3-Nitroaniline	50	36.3	73	40-140
100-01-6	4-Nitroaniline	50	39.2	78	40-140
98-95-3	Nitrobenzene	50	39.1	78	40-140
62-75-9	n-Nitrosodimethylamine	50	21.4	43	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	42.3	85	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.3	85	40-140
110-86-1	Pyridine	50	5.3	11* a	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	43%	15-110%
4165-62-2	Phenol-d5	31%	15-110%
118-79-6	2,4,6-Tribromophenol	81%	15-110%
4165-60-0	Nitrobenzene-d5	77%	30-130%
321-60-8	2-Fluorobiphenyl	70%	30-130%
1718-51-0	Terphenyl-d14	98%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29962-BS	U9128.D	1	08/10/12	NS	08/08/12	OP29962	MSU507

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	40.2	80	40-140
208-96-8	Acenaphthylene	50	29.6	59	40-140
120-12-7	Anthracene	50	42.5	85	40-140
56-55-3	Benzo(a)anthracene	50	48.4	97	40-140
50-32-8	Benzo(a)pyrene	50	48.9	98	40-140
205-99-2	Benzo(b)fluoranthene	50	55.7	111	40-140
191-24-2	Benzo(g,h,i)perylene	50	50.6	101	40-140
207-08-9	Benzo(k)fluoranthene	50	62.1	124	40-140
218-01-9	Chrysene	50	44.2	88	40-140
53-70-3	Dibenzo(a,h)anthracene	50	52.5	105	40-140
206-44-0	Fluoranthene	50	41.9	84	40-140
86-73-7	Fluorene	50	41.8	84	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	52.2	104	40-140
90-12-0	1-Methylnaphthalene	50	31.1	62	40-140
91-57-6	2-Methylnaphthalene	50	34.4	69	40-140
91-20-3	Naphthalene	50	34.9	70	40-140
85-01-8	Phenanthrene	50	43.0	86	40-140
129-00-0	Pyrene	50	40.3	81	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	85%	30-130%
321-60-8	2-Fluorobiphenyl	71%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-MS	F56724.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
OP29961-MSD	F56725.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
MC12879-6	F56726.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples: Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12879-6 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	34.1	34	100	35.1	35	3	30-130/20
95-57-8	2-Chlorophenol	ND	100	66.8	67	100	67.6	68	1	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	78.4	78	100	77.6	78	1	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	75.3	75	100	78.2	78	4	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	72.9	73	100	73.8	74	1	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	67.7	68	100	71.1	71	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	87.4	87	100	90.0	90	3	30-130/20
95-48-7	2-Methylphenol	ND	100	61.5	62	100	61.9	62	1	30-130/20
	3&4-Methylphenol	ND	200	116	58	200	117	59	1	30-130/20
88-75-5	2-Nitrophenol	ND	100	76.8	77	100	78.7	79	2	30-130/20
100-02-7	4-Nitrophenol	ND	100	36.2	36	100	34.7	35	4	30-130/20
87-86-5	Pentachlorophenol	ND	100	80.9	81	100	81.3	81	0	30-130/20
108-95-2	Phenol	ND	100	33.6	34	100	33.8	34	1	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	81.9	82	100	83.8	84	2	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	83.2	83	100	83.7	84	1	30-130/20
62-53-3	Aniline	ND	50	2.2	4* a	50	2.8	6* a	24* b	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	42.3	85	50	43.0	86	2	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	45.0	90	50	45.1	90	0	40-140/20
100-51-6	Benzyl Alcohol	ND	50	31.5	63	50	31.8	64	1	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	38.6	77	50	39.2	78	2	40-140/20
106-47-8	4-Chloroaniline	ND	50	5.8	12* a	50	4.8	10* a	19	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	39.5	79	50	40.9	82	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	36.3	73	50	37.3	75	3	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	39.3	79	50	39.9	80	2	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	41.3	83	50	42.7	85	3	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	40.0	80	50	39.7	79	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	43.4	87	50	45.5	91	5	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	44.1	88	50	44.5	89	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	ND	0* a	50	ND	0* a	nc	40-140/20
132-64-9	Dibenzofuran	ND	50	39.0	78	50	39.3	79	1	40-140/20
84-74-2	Di-n-butyl phthalate	1.0	50	44.5	87	50	44.2	86	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	45.5	91	50	47.3	95	4	40-140/20
84-66-2	Diethyl phthalate	2.7	50	45.7	86	50	46.5	88	2	40-140/20
131-11-3	Dimethyl phthalate	ND	50	44.1	88	50	43.6	87	1	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND	50	44.0	88	50	44.2	88	0	40-140/20
118-74-1	Hexachlorobenzene	ND	50	41.6	83	50	42.2	84	1	40-140/20

\* = Outside of Control Limits.

7.3.1  
7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29961-MS	F56724.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
OP29961-MSD	F56725.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695
MC12879-6	F56726.D	1	08/10/12	KR	08/08/12	OP29961	MSF2695

The QC reported here applies to the following samples: Method: SW846 8270C

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

7.3.1  
7

CAS No.	Compound	MC12879-6 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	20.0	40	50	20.6	41	3	40-140/20
67-72-1	Hexachloroethane	ND	50	24.9	50	50	24.9	50	0	40-140/20
78-59-1	Isophorone	ND	50	38.8	78	50	41.0	82	6	40-140/20
88-74-4	2-Nitroaniline	ND	50	43.6	87	50	43.9	88	1	40-140/20
99-09-2	3-Nitroaniline	ND	50	12.7	25* a	50	3.2	6* a	119* b	40-140/20
100-01-6	4-Nitroaniline	ND	50	33.1	66	50	26.1	52	24* b	40-140/20
98-95-3	Nitrobenzene	ND	50	37.9	76	50	38.7	77	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	22.6	45	50	23.0	46	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	41.8	84	50	42.9	86	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	38.9	78	50	39.5	79	2	40-140/20
110-86-1	Pyridine	ND	50	ND	0* a	50	ND	0* a	nc	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-6	Limits
367-12-4	2-Fluorophenol	43%	43%	39%	15-110%
4165-62-2	Phenol-d5	31%	31%	29%	15-110%
118-79-6	2,4,6-Tribromophenol	83%	83%	76%	15-110%
4165-60-0	Nitrobenzene-d5	74%	76%	75%	30-130%
321-60-8	2-Fluorobiphenyl	70%	71%	72%	30-130%
1718-51-0	Terphenyl-d14	97%	99%	101%	30-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29962-MS	U9129.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
OP29962-MSD	U9131.D	1	08/10/12	NS	08/08/12	OP29962	MSU507
MC12879-11	U9132.D	1	08/10/12	NS	08/08/12	OP29962	MSU507

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12879-11 Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
83-32-9	Acenaphthene	ND	50	40.2	80	50	40.8	82	1	40-140/20
208-96-8	Acenaphthylene	ND	50	29.1	58	50	29.6	59	2	40-140/20
120-12-7	Anthracene	ND	50	42.6	85	50	42.4	85	0	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	48.8	98	50	48.1	96	1	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	50.1	100	50	54.4	109	8	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	56.9	114	50	63.1	126	10	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	51.8	104	50	55.4	111	7	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	63.3	127	50	71.2	142* a	12	40-140/20
218-01-9	Chrysene	ND	50	44.7	89	50	44.6	89	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	53.8	108	50	58.9	118	9	40-140/20
206-44-0	Fluoranthene	ND	50	42.0	84	50	42.7	85	2	40-140/20
86-73-7	Fluorene	ND	50	42.6	85	50	42.3	85	1	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	53.5	107	50	58.1	116	8	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	29.9	60	50	32.0	64	7	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	33.6	67	50	34.1	68	1	40-140/20
91-20-3	Naphthalene	ND	50	33.8	68	50	33.7	67	0	40-140/20
85-01-8	Phenanthrene	ND	50	44.0	88	50	42.9	86	3	40-140/20
129-00-0	Pyrene	ND	50	40.4	81	50	40.8	82	1	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-11 Limits	
4165-60-0	Nitrobenzene-d5	83%	85%	84%	30-130%
321-60-8	2-Fluorobiphenyl	72%	74%	75%	30-130%
1718-51-0	Terphenyl-d14	106%	106%	105%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

7.3.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2695-CC2682	Injection Date:	08/10/12
Lab File ID:	F56720.D	Injection Time:	08:19
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	438966	3.96	1635964	4.94	1008551	6.37	1877404	7.72	1792629	10.50	1692663	11.95
Upper Limit <sup>a</sup>	877932	4.46	3271928	5.44	2017102	6.87	3754808	8.22	3585258	11.00	3385326	12.45
Lower Limit <sup>b</sup>	219483	3.46	817982	4.44	504276	5.87	938702	7.22	896315	10.00	846332	11.45

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29961-MB	420079	3.96	1531248	4.94	962022	6.36	1726147	7.72	1667190	10.49	1683558	11.95
ZZZZZZ	293377	3.95	1101634	4.94	710445	6.37	1275588	7.72	966423	10.48	1177902	11.95
OP29961-BS	438990	3.96	1589201	4.94	1001218	6.36	1832045	7.72	1687833	10.49	1625009	11.95
OP29961-MS	410459	3.95	1507280	4.94	949657	6.37	1720667	7.72	1626888	10.49	1568861	11.95
OP29961-MSD	416764	3.96	1534975	4.94	966763	6.37	1763361	7.72	1669390	10.49	1549409	11.95
MC12879-6	425852	3.95	1553995	4.94	968417	6.36	1758843	7.71	1662239	10.49	1642297	11.95
ZZZZZZ	509766	3.96	1830407	4.94	1098479	6.37	1938042	7.72	1841450	10.49	1954395	11.95
ZZZZZZ	501898	3.95	1765646	4.94	1082893	6.37	1878018	7.72	1835254	10.49	2064848	11.95
ZZZZZZ	493210	3.96	1766274	4.94	1056860	6.36	1891216	7.72	1782169	10.49	2012998	11.95
ZZZZZZ	497223	3.96	1741413	4.94	1072482	6.36	1914245	7.71	1852599	10.49	2024761	11.95
ZZZZZZ	502257	3.96	1775366	4.94	1065955	6.37	1883349	7.72	1815498	10.49	2043767	11.95
MC12905-3	426645	3.96	1499989	4.94	943969	6.36	1728317	7.72	1670086	10.49	1710510	11.95
MC12905-4	430756	3.96	1563375	4.94	980119	6.36	1774282	7.72	1689781	10.49	1708518	11.95
MC12905-5	435756	3.96	1560781	4.94	983555	6.37	1757988	7.72	1746164	10.49	1749216	11.95
MC12905-6	406587	3.96	1460286	4.94	917744	6.37	1641331	7.72	1598493	10.49	1594520	11.95
ZZZZZZ	489942	3.96	1769382	4.94	1125866	6.36	1995471	7.72	1838792	10.49	2332633	11.95
MC12905-7	409906	3.96	1470794	4.94	949924	6.37	1664136	7.72	1611564	10.49	1629625	11.95
MC12905-8	399542	3.96	1434964	4.94	907029	6.37	1593296	7.72	1561748	10.49	1530000	11.95

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1  
7



# Semivolatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2704-CC2682	Injection Date:	08/21/12
Lab File ID:	F56967.D	Injection Time:	08:08
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	333315	3.89	1267534	4.88	826367	6.30	1497194	7.65	1461016	10.43	1367929	11.88
Upper Limit <sup>a</sup>	666630	4.39	2535068	5.38	1652734	6.80	2994388	8.15	2922032	10.93	2735858	12.38
Lower Limit <sup>b</sup>	166658	3.39	633767	4.38	413184	5.80	748597	7.15	730508	9.93	683965	11.38

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	329040	3.90	1186331	4.88	738176	6.30	1328419	7.65	1244924	10.43	1379473	11.88
ZZZZZZ	347565	3.89	1276085	4.88	812546	6.30	1487122	7.65	1317927	10.43	1450333	11.88
ZZZZZZ	349257	3.89	1279022	4.88	806144	6.30	1461918	7.64	1306402	10.42	1380326	11.88
ZZZZZZ	343365	3.89	1213786	4.88	774836	6.31	1399805	7.64	1224058	10.42	1283302	11.88
ZZZZZZ	373636	3.89	1353107	4.88	854890	6.30	1544599	7.64	1427701	10.43	1467460	11.88
ZZZZZZ	333766	3.89	1234243	4.88	790013	6.30	1420946	7.64	1257318	10.43	1349484	11.88
ZZZZZZ	354655	3.90	1288088	4.88	826346	6.30	1492047	7.64	1361632	10.42	1436349	11.88
MC12905-8	303789	3.89	1133043	4.88	723268	6.30	1347504	7.64	1391218	10.42	1526111	11.88
ZZZZZZ	366014	3.89	1313260	4.88	839591	6.30	1520308	7.64	1406505	10.42	1487111	11.88
ZZZZZZ	323374	3.89	1209463	4.88	772153	6.30	1414200	7.64	1321005	10.42	1413734	11.88
ZZZZZZ	356898	3.89	1359759	4.88	878210	6.30	1592401	7.64	1477632	10.42	1480621	11.88
ZZZZZZ	362062	3.89	1327291	4.88	851452	6.30	1584917	7.65	1492747	10.42	1584158	11.88
ZZZZZZ	355207	3.89	1343529	4.88	845349	6.30	1548599	7.64	1487885	10.42	1562848	11.88
ZZZZZZ	353613	3.89	1261128	4.88	818589	6.30	1501488	7.64	1406070	10.42	1496058	11.88
ZZZZZZ	378134	3.89	1400278	4.88	907612	6.30	1628440	7.64	1573461	10.42	1702529	11.88
ZZZZZZ	340201	3.89	1282282	4.88	836651	6.30	1597156	7.64	1589768	10.42	1722913	11.88
ZZZZZZ	344325	3.90	1260791	4.88	808474	6.30	1458347	7.64	1379657	10.42	1492744	11.88
ZZZZZZ	380168	3.89	1396378	4.88	864338	6.30	1548150	7.64	1426481	10.42	1469769	11.88
ZZZZZZ	320282	3.89	1144549	4.88	732242	6.30	1329351	7.65	1341062	10.43	1332011	11.89
ZZZZZZ	320835	3.90	1144527	4.88	719448	6.30	1324522	7.65	1343875	10.43	1352417	11.89
ZZZZZZ	305878	3.89	1096787	4.88	690257	6.31	1233210	7.65	1221830	10.43	1286190	11.89
ZZZZZZ	276252	3.90	1155507	4.90	683039	6.32	1305656	7.65	1343705	10.43	1383128	11.89
ZZZZZZ	297840	3.89	1121040	4.88	713553	6.30	1351372	7.65	1311233	10.43	1566068	11.89
ZZZZZZ	286936	3.89	1081454	4.88	698632	6.30	1293932	7.65	1268009	10.43	1482840	11.89
ZZZZZZ	296349	3.89	1086272	4.88	691083	6.30	1262144	7.65	1280772	10.43	1467983	11.89

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU507-CC486	Injection Date:	08/10/12
Lab File ID:	U9125.D	Injection Time:	12:47
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	66580	3.76	200009	4.74	112786	6.16	216741	7.48	151678	10.25	280566	11.69
Upper Limit <sup>a</sup>	133160	4.26	400018	5.24	225572	6.66	433482	7.98	303356	10.75	561132	12.19
Lower Limit <sup>b</sup>	33290	3.26	100005	4.24	56393	5.66	108371	6.98	75839	9.75	140283	11.19

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	57307	3.77	171955	4.74	100142	6.16	185099	7.48	136222	10.25	257029	11.69
OP29962-MB	60926	3.76	179552	4.74	100848	6.16	189071	7.48	139637	10.25	225117	11.69
OP29962-BS	58692	3.77	169024	4.74	94450	6.16	177047	7.48	122859	10.25	198159	11.69
OP29962-MS	62894	3.77	182860	4.74	103380	6.16	196302	7.48	137127	10.25	216019	11.69
OP29962-MSD	67650	3.77	197078	4.74	109384	6.16	208455	7.48	142799	10.25	199185	11.69
MC12879-11	59493	3.76	173593	4.74	97872	6.16	182311	7.47	131874	10.25	213778	11.69
MC12905-3	67235	3.76	192553	4.74	105766	6.16	195380	7.47	138939	10.25	222117	11.69
MC12905-4	68606	3.76	197002	4.74	110317	6.16	205478	7.48	146338	10.25	232667	11.69
MC12905-5	65569	3.77	193698	4.74	108929	6.16	207152	7.48	149105	10.25	238700	11.69
MC12905-6	59786	3.77	178159	4.74	98703	6.16	185612	7.48	132099	10.25	212228	11.69
ZZZZZZ	70959	3.76	202844	4.74	111810	6.16	209190	7.48	143211	10.25	225294	11.69
ZZZZZZ	69504	3.76	196996	4.74	108992	6.16	199663	7.47	141129	10.25	220980	11.69
ZZZZZZ	70784	3.76	203864	4.74	112300	6.16	206833	7.48	146562	10.25	223847	11.69
ZZZZZZ	68038	3.76	195172	4.74	108670	6.16	200130	7.47	140028	10.25	222357	11.69
ZZZZZZ	70837	3.76	201896	4.74	114125	6.16	210415	7.48	149656	10.25	234367	11.69
ZZZZZZ	69273	3.76	201949	4.74	111480	6.16	203643	7.48	143618	10.25	228046	11.69
ZZZZZZ	71766	3.76	204722	4.74	111151	6.16	204720	7.48	144390	10.25	227130	11.69
ZZZZZZ	65237	3.76	188021	4.74	104942	6.16	195681	7.48	137615	10.25	215436	11.69
ZZZZZZ	72102	3.76	206544	4.74	112899	6.16	210363	7.47	146334	10.25	224680	11.69
ZZZZZZ	67300	3.76	198136	4.74	106606	6.16	199658	7.47	141732	10.25	220637	11.69
MC12905-7	65319	3.77	190193	4.74	102623	6.16	195626	7.48	138516	10.25	219926	11.69
MC12905-8	61085	3.77	181732	4.74	100433	6.16	189013	7.48	135972	10.25	213154	11.69

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.3  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	74183	3.74	215966	4.72	121568	6.14	231849	7.44	157950	10.22	287514	11.67
Upper Limit <sup>a</sup>	148366	4.24	431932	5.22	243136	6.64	463698	7.94	315900	10.72	575028	12.17
Lower Limit <sup>b</sup>	37092	3.24	107983	4.22	60784	5.64	115925	6.94	78975	9.72	143757	11.17

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29999-MS	71583	3.74	207520	4.72	112545	6.14	209934	7.45	83852	10.22	111938 <sup>c</sup>	11.66
OP29999-MSD	71233	3.74	203886	4.72	109746	6.14	205650	7.44	83352	10.22	114920 <sup>c</sup>	11.66
MC12978-4	69748	3.74	200172	4.72	109689	6.14	203795	7.44	88467	10.22	120327 <sup>c</sup>	11.66
ZZZZZZ	72217	3.74	205369	4.72	111617	6.14	207245	7.44	92848	10.22	130035 <sup>c</sup>	11.66
ZZZZZZ	72201	3.74	204902	4.72	112553	6.14	208471	7.44	93883	10.22	130090 <sup>c</sup>	11.66
ZZZZZZ	68332	3.74	196326	4.72	106309	6.14	198140	7.44	91794	10.22	127541 <sup>c</sup>	11.66
ZZZZZZ	68525	3.74	193092	4.72	106918	6.14	198831	7.44	109460	10.22	161532	11.66
ZZZZZZ	64898	3.74	184919	4.72	100976	6.14	189141	7.44	69395 <sup>c</sup>	10.22	94469 <sup>c</sup>	11.66
ZZZZZZ	73978	3.74	210885	4.72	115830	6.14	212901	7.44	79723	10.22	107257 <sup>c</sup>	11.66
ZZZZZZ	64928	3.74	189697	4.72	102497	6.14	186877	7.44	71573 <sup>c</sup>	10.22	96546 <sup>c</sup>	11.66
MC12905-7	71004	3.74	203218	4.72	113722	6.14	213711	7.44	141576	10.22	199474	11.66
MC12905-8	70986	3.74	202204	4.72	112847	6.14	209861	7.44	144823	10.22	199711	11.66
OP29979-MB	66015	3.74	192336	4.72	106078	6.14	197204	7.44	137291	10.22	217162	11.66
OP29979-BS	63085	3.74	184334	4.72	100797	6.14	185462	7.45	126986	10.23	206580	11.66
OP29979-MS	60942	3.74	176504	4.72	98042	6.14	188532	7.45	132951	10.23	219452	11.66
OP29979-MSD	67652	3.74	194177	4.72	108229	6.14	201785	7.45	134825	10.23	173460	11.67
MC12994-2	66309	3.74	193152	4.72	106374	6.14	198533	7.44	137855	10.22	234364	11.66
ZZZZZZ	65411	3.74	188895	4.72	106106	6.14	197315	7.44	139482	10.22	230154	11.66
ZZZZZZ	64629	3.74	188478	4.72	105190	6.14	194361	7.44	138043	10.22	229882	11.66
ZZZZZZ	62752	3.74	186064	4.72	99713	6.14	183392	7.44	129195	10.22	229281	11.67
ZZZZZZ	63779	3.74	191425	4.72	101337	6.14	190332	7.45	133777	10.22	236316	11.67
ZZZZZZ	67061	3.74	195745	4.72	107355	6.14	200814	7.44	141954	10.22	243369	11.66
MC12978-4	71272	3.74	203022	4.72	113316	6.14	206807	7.44	89607	10.22	124219 <sup>c</sup>	11.66
ZZZZZZ	67065	3.74	192739	4.72	105486	6.14	196366	7.44	90479	10.22	128564 <sup>c</sup>	11.66
ZZZZZZ	67697	3.74	194421	4.72	108014	6.13	203927	7.44	95375	10.22	135262 <sup>c</sup>	11.66
ZZZZZZ	71130	3.74	205153	4.72	109730	6.14	204141	7.44	94580	10.22	131219 <sup>c</sup>	11.66
ZZZZZZ	64007	3.74	183110	4.72	101259	6.14	187958	7.44	71606 <sup>c</sup>	10.22	96577 <sup>c</sup>	11.66
ZZZZZZ	73579	3.74	211712	4.72	117518	6.14	216650	7.44	83184	10.22	109599 <sup>c</sup>	11.66
ZZZZZZ	66563	3.74	197066	4.72	106019	6.14	195577	7.44	73907 <sup>c</sup>	10.22	98115 <sup>c</sup>	11.66

IS 1 = 1,4-Dichlorobenzene-d4  
 IS 2 = Naphthalene-d8  
 IS 3 = Acenaphthene-D10  
 IS 4 = Phenanthrene-d10  
 IS 5 = Chrysene-d12

7.4.4  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12905  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Results confirmed by reanalysis.

7.4.4  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12905

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12905-3	F56732.D	29	23	77	61	63	73
MC12905-4	F56733.D	33	27	78	64	68	65
MC12905-5	F56734.D	32	25	83	64	67	71
MC12905-6	F56735.D	33	25	81	64	67	90
MC12905-7	F56737.D	34	29	86	76	71	91
MC12905-8	F56977.D	34	37	80	68	70	80
MC12905-8	F56738.D	38	43	88	76	74	88
OP29961-BS	F56723.D	43	31	81	77	70	98
OP29961-MB	F56721.D	37	28	76	67	65	95
OP29961-MS	F56724.D	43	31	83	74	70	97
OP29961-MSD	F56725.D	43	31	83	76	71	99

**Surrogate Compounds**

**Recovery Limits**

S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.5.1

7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12905

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12905-3	U9133.D	65	66	77
MC12905-4	U9134.D	70	71	68
MC12905-5	U9135.D	68	69	75
MC12905-6	U9136.D	67	70	98
MC12905-7	U9147.D	77	79	95
MC12905-7	U9174.D	80	84	111
MC12905-8	U9148.D	79	80	96
MC12905-8	U9175.D	82	81	103
OP29962-BS	U9128.D	85	71	106
OP29962-MB	U9127.D	77	67	98
OP29962-MS	U9129.D	83	72	106
OP29962-MSD	U9131.D	85	74	106

**Surrogate Compounds**

**Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.5.2  
7

## GC Volatiles

---

## QC Data Summaries



---

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

Job Number: MC12905  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-MB	BK15906.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12905-2, MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	89%	36-173%
460-00-4	Bromofluorobenzene (S)	102%	36-173%

8.1.1  
8



# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-BS	BK15908.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
OP29956-BSD	BK15909.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12905-2, MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.072	101	0.072	101	0	60-140/30
106-93-4	1,2-Dibromoethane	0.071	0.070	99	0.069	97	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	Bromofluorobenzene (S)	92%	93%	36-173%
460-00-4	Bromofluorobenzene (S)	108%	110%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-MS	BK15910.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
OP29956-MSD	BK15911.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
MC12879-8	BK15912.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12905-2, MC12905-3, MC12905-4, MC12905-5, MC12905-6, MC12905-7, MC12905-8

CAS No.	Compound	MC12879-8 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.071	0.076	107	0.071	0.078	110	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.071	0.071	100	0.071	0.074	104	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-8	Limits
460-00-4	Bromofluorobenzene (S)	100%	100%	96%	36-173%
460-00-4	Bromofluorobenzene (S)	109%	114%	107%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12905

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12905-2	BK15923.D	92	110
MC12905-3	BK15924.D	97	129
MC12905-4	BK15925.D	99	94
MC12905-5	BK15927.D	92	125
MC12905-6	BK15928.D	89	129
MC12905-7	BK15929.D	99	116
MC12905-8	BK15930.D	101	105
OP29956-BS	BK15908.D	92	108
OP29956-BSD	BK15909.D	93	110
OP29956-MB	BK15906.D	89	102
OP29956-MS	BK15910.D	100	109
OP29956-MSD	BK15911.D	100	114

Surrogate Compounds                      Recovery Limits

S1 = Bromofluorobenzene (S)                      36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-ICC604	Injection Date:	08/09/12
Lab File ID:	BK15900.D	Injection Time:	17:12
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.39
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
OP29956-MB	BK15906.D	08/09/12	19:38	5.28	4.40
ZZZZZZ	BK15907.D	08/09/12	20:03	5.28	4.40
OP29956-BS	BK15908.D	08/09/12	20:27	5.28	4.40
OP29956-BSD	BK15909.D	08/09/12	20:51	5.28	4.40
OP29956-MS	BK15910.D	08/09/12	21:15	5.28	4.40
OP29956-MSD	BK15911.D	08/09/12	21:39	5.28	4.40
MC12879-8	BK15912.D	08/09/12	22:04	5.28	4.40
ZZZZZZ	BK15913.D	08/09/12	22:28	5.28	4.40
ZZZZZZ	BK15914.D	08/09/12	22:52	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/09/12
Lab File ID:	BK15915.D	Injection Time:	23:17
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15916.D	08/09/12	23:41	5.28	4.40
ZZZZZZ	BK15917.D	08/10/12	00:06	5.28	4.40
ZZZZZZ	BK15918.D	08/10/12	00:30	5.28	4.40
ZZZZZZ	BK15919.D	08/10/12	00:54	5.28	4.40
ZZZZZZ	BK15920.D	08/10/12	01:19	5.28	4.40
ZZZZZZ	BK15921.D	08/10/12	01:43	5.28	4.40
ZZZZZZ	BK15922.D	08/10/12	02:08	5.28	4.40
MC12905-2	BK15923.D	08/10/12	02:32	5.28	4.40
MC12905-3	BK15924.D	08/10/12	02:57	5.28	4.40
MC12905-4	BK15925.D	08/10/12	03:21	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8

# GC Surrogate Retention Time Summary

Job Number: MC12905  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15926.D	Injection Time:	03:45
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
-----------	------	------

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
MC12905-5	BK15927.D	08/10/12	04:10	5.28	4.40
MC12905-6	BK15928.D	08/10/12	04:34	5.28	4.40
MC12905-7	BK15929.D	08/10/12	04:59	5.28	4.40
MC12905-8	BK15930.D	08/10/12	05:23	5.28	4.40
ZZZZZZ	BK15931.D	08/10/12	05:48	5.28	4.40
ZZZZZZ	BK15932.D	08/10/12	06:12	5.28	4.40
OP29955-MB	BK15933.D	08/10/12	06:37	5.28	4.40
OP29955-BS	BK15934.D	08/10/12	07:01	5.28	4.40
OP29955-MS	BK15935.D	08/10/12	07:26	5.28	4.40
OP29955-MSD	BK15936.D	08/10/12	07:50	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.3  
8

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



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*Automated Report*

### Technical Report for

## Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12941

Sampling Date: 08/07/12

### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 64



Test results contained within this data package meet the requirements  
of the National Environmental Laboratory Accreditation Program  
and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791)  
NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220)  
DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



ACCUTEST

October 21, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12941

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

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## Sample Summary

Shell Oil

Job No: MC12941

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
MC12941-1	08/07/12	14:55 DM	08/08/12	AQ	Ground Water	MW7-ROX-080712
MC12941-2	08/07/12	00:00 DM	08/08/12	AQ	Trip Blank Water	TB-080712-HCL
MC12941-3	08/07/12	00:00 DM	08/08/12	AQ	Trip Blank Water	TB-080712-ST

## SAMPLE DELIVERY GROUP CASE NARRATIVE



**Client:** She O

**Job No** MC 294

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 10/21/2016 6:32:40 P

Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 08/07/2016 and were received at SGS Accutest New England on 08/08/2016 properly preserved, at 3-7 Deg C and intact. These Samples received a job number of MC 294. All of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Chlorohexane, Benzenethiol, D benz(a,h)acridene, Indene and Quinoline were searched in the library search and reported on if detections were found.

Except as noted below, all method specified criteria and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ

**Batch ID:** MSN25 2

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specification criteria.
- Sample(s) MC 2870-4MS, MC 2870-4MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Acrylonitrile, Acrolein are out of control limits.
- Matrix Spike Recovery(s) for Acetone, Acrolein, Acrylonitrile are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Acetone, Acrolein are out of control limits. Probable cause due to matrix interference.
- MC 294 - for Acetone: In the Calibration Verification out of acceptance criteria. Sample result may be biased high.
- MC 294 -2 for Acrolein: In the Calibration Verification out of acceptance criteria. Sample result may be biased low.
- MC 2870-4MS for Acrylonitrile: Out of control limits. Associated samples are non-detect for this compound.
- MSN25 2-BS/BSD for Acrylonitrile: Out of control limits. Associated samples are non-detect for this compound.
- MC 294 - for Acrolein: In the Calibration Verification out of acceptance criteria. Sample result may be biased low.

**Matrix:** AQ

**Batch ID:** MSN25 4

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC 2944- 5MS, MC 2944- 5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specification criteria.
- MC 294 - : Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria. Instrument QC and results may be biased low.

## Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ

**Batch ID:** OP29978

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2994-MS, MC 2994-MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification
- Blank Spike Recovery(s) for 4-N tropheno, Anine, Hexachlorocyclopentadiene are out of control limits
- Matrix Spike Recovery(s) for 4-N tropheno, Anine, Hexachlorocyclopentadiene are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 4-N tropheno, Hexachlorocyclopentadiene, 3,3'-Dichlorobenzene, 3-N tropheno, 4-Chloroaniline, 4-N tropheno, Anine, Pyridine are out of control limits. High RPD due to possible matrix interference and/or sample non-homogeneity
- RPD(s) for MSD for 3,3'-Dichlorobenzene, 3-N tropheno, 4-Chloroaniline, 4-N tropheno, Anine, N-N-trosodiphenylamine, Pyridine are out of control limits for sample OP29978-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ

**Batch ID:** OP29979

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2994-2MS, MC 2994-2MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification
- Matrix Spike Duplicate Recovery(s) for Benzo(k)fluoranthene are out of control limits. High RPD due to possible matrix interference and/or sample non-homogeneity
- RPD(s) for MSD for 1-Methylnaphthalene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene are out of control limits for sample OP29979-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity
- OP29979-BSD for 1-Methylnaphthalene: Out of control limits. Individual spike recoveries within acceptance limits

## Volatiles by GC By Method SW846 8011

**Matrix:** AQ

**Batch ID:** OP29956

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879-8MS, MC 2879-8MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

SGS Accutest New England certifies that analyses were performed with the method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 294)

## Summary of Hits

Job Number: MC12941  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/07/12



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
MC12941-1	MW7-ROX-080712						
		Acetone <sup>a</sup>	199	50	30	ug/l	SW846 8260B
		Benzene <sup>b</sup>	591000	2500	1200	ug/l	SW846 8260B
		Ethylbenzene	61.9	10	5.1	ug/l	SW846 8260B
		n-Propylbenzene	10.2 J	50	5.8	ug/l	SW846 8260B
		Toluene	62.9	10	5.1	ug/l	SW846 8260B
		1,2,4-Trimethylbenzene	100	50	3.5	ug/l	SW846 8260B
		1,3,5-Trimethylbenzene	21.0 J	50	4.7	ug/l	SW846 8260B
		m,p-Xylene	120	10	7.3	ug/l	SW846 8260B
		o-Xylene	48.6	10	5.8	ug/l	SW846 8260B
		Xylene (total)	169	10	5.8	ug/l	SW846 8260B
		Phenol	57.6	5.1	0.94	ug/l	SW846 8270C
		Diethyl phthalate	0.58 J	5.1	0.19	ug/l	SW846 8270C
		bis(2-Ethylhexyl)phthalate	0.60 J	2.0	0.38	ug/l	SW846 8270C
		Acenaphthene	0.24	0.10	0.014	ug/l	SW846 8270C BY SIM
		Acenaphthylene	0.037 J	0.10	0.013	ug/l	SW846 8270C BY SIM
		Anthracene	0.022 J	0.10	0.018	ug/l	SW846 8270C BY SIM
		Fluorene	0.16	0.10	0.047	ug/l	SW846 8270C BY SIM
		1-Methylnaphthalene	5.5	0.20	0.14	ug/l	SW846 8270C BY SIM
		2-Methylnaphthalene	6.5	0.20	0.052	ug/l	SW846 8270C BY SIM
		Naphthalene	8.9	0.10	0.036	ug/l	SW846 8270C BY SIM
		Phenanthrene	0.19	0.051	0.013	ug/l	SW846 8270C BY SIM

MC12941-2 TB-080712-HCL

No hits reported in this sample.

MC12941-3 TB-080712-ST

No hits reported in this sample.

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

Client Sample ID:	MW7-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12941-1	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66803.D	10	08/17/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66858.D	5000	08/20/12	AMY	n/a	n/a	MSN2514

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>b</sup>	199	50	30	ug/l	
107-02-8	Acrolein <sup>c</sup>	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	591000 <sup>d</sup>	2500	1200	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW7-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12941-1	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	61.9	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	ND	50	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	10.2	50	5.8	ug/l	J
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	62.9	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	100	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	21.0	50	4.7	ug/l	J
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	120	10	7.3	ug/l	
95-47-6	o-Xylene	48.6	10	5.8	ug/l	
1330-20-7	Xylene (total)	169	10	5.8	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW7-ROX-080712		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-1		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	76%	91%	70-130%
2037-26-5	Toluene-D8	91%	95%	70-130%
460-00-4	4-Bromofluorobenzene	90%	100%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (c) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (d) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW7-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3878.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	57.6	5.1	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW7-ROX-080712		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-1		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.58	5.1	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.1	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.60	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	96%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW7-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9181.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
Run #2							

Run #	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.24	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.037	0.10	0.013	ug/l	J
120-12-7	Anthracene	0.022	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.051	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.16	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	5.5	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	6.5	0.20	0.052	ug/l	
91-20-3	Naphthalene	8.9	0.10	0.036	ug/l	
85-01-8	Phenanthrene	0.19	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	87%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> MW7-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15931.D	1	08/10/12	AP	08/09/12	OP29956	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	33.7 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.016	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.016	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	82%		36-173%
460-00-4	Bromofluorobenzene (S)	98%		36-173%

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	TB-080712-HCL	Date Sampled:	08/07/12
Lab Sample ID:	MC12941-2	Date Received:	08/08/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66796.D	1	08/17/12	JP	n/a	n/a	MSN2512
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080712-HCL	Date Sampled:	08/07/12
Lab Sample ID:	MC12941-2	Date Received:	08/08/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080712-HCL		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-2		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

4.2  
4

**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> TB-080712-ST	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12941-3	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15932.D	1	08/10/12	AP	08/09/12	OP29956	GBK604
Run #2							

Run #	Initial Volume	Final Volume
Run #1	35.9 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	90%		36-173%
460-00-4	Bromofluorobenzene (S)	110%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.3  
4

**Misc. Forms****5****Custody Documents and Other Forms**

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



# Shell Oil Products Chain Of Custody Record

**URS**

LAB (LOCATION)  
 XENCO  
 CALSCIENCE  
 OTHER (Mariborough Labs, 495 Technology Cir W Mariborough, MA 01752 (508-481-6290))  
 SPL  
 Lab Vendor # \_\_\_\_\_

Please Check Appropriate Box:  
 ENV. SERVICES  
 MOTIVA RETAIL  
 SHELL RETAIL  
 MOTIVA SD&CM  
 CONSULTANT  
 LUBES  
 SHELL PIPELINE  
 OTHER

Print Bill To Contact Name: Erik Arthur  
 INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0  
 CHECK IF NO INCIDENT # APPLIES  
 DATE: 8/7/12  
 PAGE: 1 of 1

MAILING COMPANY: URS CORPORATION  
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

SITE ADDRESS: Street and City: 900 South Central Ave, ROXANA  
 STATE: IL  
 COUNTY: ILLINOIS  
 COORDINATE PROJECT NO: Roxana Quarterly GW / 21562735.00008

PERSONNEL: Erik Arthur  
 TELEPHONE: 314-285-1553  
 FAX: 314-429-0462  
 E-MAIL: erik.arthur@urs.urscorp.com

LAB USE ONLY: MC12941

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (10 DAY)  
 5 DAYS  
 3 DAYS  
 2 DAYS  
 24 HOURS  
 RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) EDD  
 SPECIAL INSTRUCTIONS OR NOTES:  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.

FIELD NOTES:  
 TEMPERATURE ON RECEIPT: 6  
 Container PID Readings or Laboratory Notes

SPECIAL INSTRUCTIONS OR NOTES:  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	FIELD NOTES
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER						
	-1 MW7-ROX-080712	8/7/12	14:55	Water				2	2	6	X	X	X	0	
	-2 TB-080712-NC1		00:00					2		2	X				
	-3 TB-080712-ST		00:00					2	2	2	X				
OR															
															CC 16.88 4K2

Requested by (Signature): <i>Daniel M...</i>	Received by (Signature):	Date: 8/7/12	Time: 1700
Requested by (Signature): <i>Fedex</i>	Received by (Signature): <i>[Signature]</i>	Date: 8/8/12	Time: 09:15
Requested by (Signature):	Received by (Signature):	Date:	Time:

2.7, 3.7

5.1  
5

## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC12941      Client: URS      Immediate Client Services Action Required: No  
 Date / Time Received: 8/8/2012      Delivery Method: \_\_\_\_\_      Client Service Action Required at Login: No  
 Project: 900 SO CENTRAL AVE      No. Coolers: 2      Airbill #'s: \_\_\_\_\_

**Cooler Security**

	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Cooler Temperature**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	<u>Infrared gun</u>		
3. Cooler media:	<u>Ice (bag)</u>		

**Quality Control Preservation**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

**Sample Integrity - Documentation**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Sample Integrity - Condition**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

**Sample Integrity - Instructions**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

5.1  
5

## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12941

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC12941-1 Collected: 07-AUG-12 14:55 By: DM Received: 08-AUG-12 By: MW7-ROX-080712						
MC12941-1	SW846 8011	10-AUG-12 05:48	AP	09-AUG-12 SC		V8011SL
MC12941-1	SW846 8270C	13-AUG-12 13:29	KR	09-AUG-12 MEW		AB8270SL +
MC12941-1	SW846 8270C BY SIM	13-AUG-12 17:39	NS	09-AUG-12 MT		B8270SIMP AH
MC12941-1	SW846 8260B	17-AUG-12 23:55	JP			V8260SL +
MC12941-1	SW846 8260B	20-AUG-12 19:42	AMY			V8260SL +
MC12941-2 Collected: 07-AUG-12 00:00 By: DM Received: 08-AUG-12 By: TB-080712-HCL						
MC12941-2	SW846 8260B	17-AUG-12 20:37	JP			V8260SL +
MC12941-3 Collected: 07-AUG-12 00:00 By: DM Received: 08-AUG-12 By: TB-080712-ST						
MC12941-3	SW846 8011	10-AUG-12 06:12	AP	09-AUG-12 SC		V8011SL

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12941  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/08/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12941-1.1	Walk In Ref #22	Nick Krasinski	08/09/12 16:11	Retrieve from Storage
MC12941-1.1	Nick Krasinski		08/09/12 21:58	Depleted
MC12941-1.3	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12941-1.3	Nick Krasinski		08/09/12 21:58	Depleted
MC12941-1.5	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12941-1.5	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12941-1.5	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12941-1.5	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12941-1.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12941-1.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12941-1.5	Scott Parsick		10/23/12 13:15	Disposed
MC12941-1.6	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12941-1.6	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12941-1.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12941-1.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12941-1.6	Scott Parsick		10/23/12 13:15	Disposed
MC12941-2.1	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12941-2.1	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12941-2.1	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12941-2.1	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12941-2.1	Scott Parsick		10/23/12 13:15	Disposed
MC12941-3.2	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12941-3.2	Nick Krasinski		08/09/12 21:58	Depleted

5.3  
5

## GC/MS Volatiles

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	



# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	85% 70-130%
2037-26-5	Toluene-D8	97% 70-130%
460-00-4	4-Bromofluorobenzene	101% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12941  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-MB	N66838.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	94% 70-130%
2037-26-5	Toluene-D8	96% 70-130%
460-00-4	4-Bromofluorobenzene	96% 70-130%

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	46.7	93	50.9	102	9	70-130/25
107-02-8	Acrolein	250	370	148* a	410	164* a	10	70-130/25
107-13-1	Acrylonitrile	50	223	446* b	221	442* b	1	70-130/25
71-43-2	Benzene	50	46.9	94	47.5	95	1	70-130/25
108-86-1	Bromobenzene	50	49.0	98	54.0	108	10	70-130/25
74-97-5	Bromochloromethane	50	47.3	95	46.9	94	1	70-130/25
75-27-4	Bromodichloromethane	50	47.2	94	46.7	93	1	70-130/25
75-25-2	Bromoform	50	53.8	108	53.1	106	1	70-130/25
74-83-9	Bromomethane	50	56.7	113	63.5	127	11	70-130/25
78-93-3	2-Butanone (MEK)	50	44.3	89	43.3	87	2	70-130/25
104-51-8	n-Butylbenzene	50	47.1	94	48.8	98	4	70-130/25
135-98-8	sec-Butylbenzene	50	53.5	107	55.4	111	3	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	53.6	107	6	70-130/25
75-15-0	Carbon disulfide	50	42.5	85	46.3	93	9	70-130/25
56-23-5	Carbon tetrachloride	50	51.1	102	48.9	98	4	70-130/25
108-90-7	Chlorobenzene	50	56.0	112	56.9	114	2	70-130/25
75-00-3	Chloroethane	50	42.2	84	49.1	98	15	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	47.0	94	48.0	96	2	70-130/25
67-66-3	Chloroform	50	41.4	83	42.3	85	2	70-130/25
74-87-3	Chloromethane	50	57.7	115	62.0	124	7	70-130/25
95-49-8	o-Chlorotoluene	50	48.2	96	52.2	104	8	70-130/25
106-43-4	p-Chlorotoluene	50	49.4	99	54.8	110	10	70-130/25
124-48-1	Dibromochloromethane	50	56.4	113	56.9	114	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	51.4	103	51.8	104	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	51.4	103	53.6	107	4	70-130/25
106-46-7	1,4-Dichlorobenzene	50	49.7	99	51.7	103	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	58.9	118	65.7	131* a	11	70-130/25
75-34-3	1,1-Dichloroethane	50	44.2	88	43.4	87	2	70-130/25
107-06-2	1,2-Dichloroethane	50	44.8	90	42.8	86	5	70-130/25
75-35-4	1,1-Dichloroethene	50	46.0	92	50.9	102	10	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	46.1	92	46.5	93	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	46.3	93	45.8	92	1	70-130/25
78-87-5	1,2-Dichloropropane	50	46.7	93	47.7	95	2	70-130/25
142-28-9	1,3-Dichloropropane	50	47.3	95	48.9	98	3	70-130/25
594-20-7	2,2-Dichloropropane	50	45.2	90	45.6	91	1	70-130/25
563-58-6	1,1-Dichloropropene	50	47.9	96	46.6	93	3	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	54.2	108	50.2	100	8	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	51.6	103	48.3	97	7	70-130/25
123-91-1	1,4-Dioxane	250	285	114	241	96	17	70-130/25
97-63-2	Ethyl methacrylate	50	55.4	111	50.7	101	9	77-137/25
100-41-4	Ethylbenzene	50	49.3	99	51.3	103	4	70-130/25
87-68-3	Hexachlorobutadiene	50	50.6	101	55.9	112	10	70-130/25
591-78-6	2-Hexanone	50	52.9	106	51.0	102	4	70-130/25
98-82-8	Isopropylbenzene	50	52.2	104	56.0	112	7	70-130/25
99-87-6	p-Isopropyltoluene	50	54.5	109	56.5	113	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	47.0	94	46.5	93	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.1	104	46.1	92	12	70-130/25
74-95-3	Methylene bromide	50	50.2	100	49.6	99	1	70-130/25
75-09-2	Methylene chloride	50	42.4	85	46.7	93	10	70-130/25
103-65-1	n-Propylbenzene	50	51.2	102	56.2	112	9	70-130/25
100-42-5	Styrene	50	55.6	111	57.2	114	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.3	107	53.7	107	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.7	97	49.5	99	2	70-130/25
127-18-4	Tetrachloroethene	50	54.2	108	56.6	113	4	70-130/25
108-88-3	Toluene	50	52.4	105	50.1	100	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	48.1	96	52.3	105	8	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	48.5	97	52.4	105	8	70-130/25
71-55-6	1,1,1-Trichloroethane	50	41.0	82	45.0	90	9	70-130/25
79-00-5	1,1,2-Trichloroethane	50	47.9	96	45.1	90	6	70-130/25
79-01-6	Trichloroethene	50	45.8	92	46.7	93	2	70-130/25
75-69-4	Trichlorofluoromethane	50	36.8	74	41.6	83	12	70-130/25
96-18-4	1,2,3-Trichloropropane	50	48.3	97	48.0	96	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	52.7	105	6	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.0	96	51.8	104	8	70-130/25
108-05-4	Vinyl Acetate	50	55.2	110	55.8	112	1	70-130/25
75-01-4	Vinyl chloride	50	47.3	95	51.8	104	9	70-130/25
	m,p-Xylene	100	109	109	111	111	2	70-130/25
95-47-6	o-Xylene	50	57.5	115	59.6	119	4	70-130/25
1330-20-7	Xylene (total)	150	166	111	171	114	3	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	82%	83%	70-130%
2037-26-5	Toluene-D8	102%	97%	70-130%
460-00-4	4-Bromofluorobenzene	87%	96%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-BS	N66835.D	1	08/20/12	AMY	n/a	n/a	MSN2514
MSN2514-BSD	N66836.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	47.4	95	42.2	84	12	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	91%	90%	70-130%
2037-26-5	Toluene-D8	98%	97%	70-130%
460-00-4	4-Bromofluorobenzene	93%	96%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	MC12870-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		500	777	155* a	500	815	5	70-130/30
107-02-8	Acrolein	ND		2500	3920	157* a	2500	3950	1	70-130/30
107-13-1	Acrylonitrile	ND		500	2310	462* b	500	2160	7	70-130/30
71-43-2	Benzene	13.1		500	478	93	500	477	0	70-130/30
108-86-1	Bromobenzene	ND		500	486	97	500	493	1	70-130/30
74-97-5	Bromochloromethane	ND		500	464	93	500	465	0	70-130/30
75-27-4	Bromodichloromethane	ND		500	438	88	500	445	2	70-130/30
75-25-2	Bromoform	ND		500	498	100	500	503	1	70-130/30
74-83-9	Bromomethane	ND		500	541	108	500	567	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		500	433	87	500	456	5	70-130/30
104-51-8	n-Butylbenzene	1.5	J	500	474	95	500	494	4	70-130/30
135-98-8	sec-Butylbenzene	2.7	J	500	533	106	500	551	3	70-130/30
98-06-6	tert-Butylbenzene	ND		500	499	100	500	507	2	70-130/30
75-15-0	Carbon disulfide	ND		500	434	87	500	435	0	70-130/30
56-23-5	Carbon tetrachloride	ND		500	483	97	500	470	3	70-130/30
108-90-7	Chlorobenzene	ND		500	557	111	500	554	1	70-130/30
75-00-3	Chloroethane	ND		500	444	89	500	435	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		500	466	93	500	460	1	70-130/30
67-66-3	Chloroform	ND		500	397	79	500	404	2	70-130/30
74-87-3	Chloromethane	ND		500	534	107	500	569	6	70-130/30
95-49-8	o-Chlorotoluene	ND		500	472	94	500	485	3	70-130/30
106-43-4	p-Chlorotoluene	ND		500	483	97	500	503	4	70-130/30
124-48-1	Dibromochloromethane	ND		500	543	109	500	544	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		500	503	101	500	527	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		500	503	101	500	519	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		500	482	96	500	495	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		500	634	127	500	615	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		500	416	83	500	419	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		500	420	84	500	417	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		500	471	94	500	467	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		500	430	86	500	446	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		500	448	90	500	440	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		500	463	93	500	457	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		500	459	92	500	469	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		500	425	85	500	435	2	70-130/30
563-58-6	1,1-Dichloropropene	ND		500	457	91	500	460	1	70-130/30

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Compound	MC12870-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		500	99	500	482	96	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		500	91	500	463	93	2	70-130/30
123-91-1	1,4-Dioxane	ND		2500	101	2500	2410	96	4	70-130/30
97-63-2	Ethyl methacrylate	ND		500	98	500	493	99	1	72-139/30
100-41-4	Ethylbenzene	0.65	J	500	100	500	493	98	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		500	102	500	552	110	8	70-130/30
591-78-6	2-Hexanone	ND		500	101	500	523	105	4	70-130/30
98-82-8	Isopropylbenzene	17.3		500	105	500	546	106	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		500	107	500	553	111	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		500	90	500	477	95	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		500	96	500	502	100	5	70-130/30
74-95-3	Methylene bromide	ND		500	93	500	472	94	2	70-130/30
75-09-2	Methylene chloride	ND		500	82	500	414	83	1	70-130/30
103-65-1	n-Propylbenzene	13.7		500	103	500	538	105	1	70-130/30
100-42-5	Styrene	ND		500	110	500	550	110	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		500	106	500	519	104	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	95	500	501	100	6	70-130/30
127-18-4	Tetrachloroethene	ND		500	112	500	536	107	4	70-130/30
108-88-3	Toluene	0.93	J	500	96	500	483	96	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		500	98	500	526	105	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		500	98	500	522	104	7	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		500	82	500	405	81	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		500	88	500	440	88	0	70-130/30
79-01-6	Trichloroethene	ND		500	90	500	446	89	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		500	76	500	371	74	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		500	91	500	482	96	6	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		500	98	500	498	100	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		500	94	500	478	96	2	70-130/30
108-05-4	Vinyl Acetate	ND		500	106	500	572	114	8	70-130/30
75-01-4	Vinyl chloride	ND		500	94	500	467	93	1	70-130/30
	m,p-Xylene	3.3		1000	114	1000	1120	112	2	70-130/30
95-47-6	o-Xylene	0.61	J	500	118	500	577	115	3	70-130/30
1330-20-7	Xylene (total)	3.9		1500	116	1500	1700	113	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1, MC12941-2

CAS No.	Surrogate Recoveries	MS	MSD	MC12870-4	Limits
1868-53-7	Dibromofluoromethane	82%	81%	82%	70-130%
2037-26-5	Toluene-D8	97%	94%	96%	70-130%
460-00-4	4-Bromofluorobenzene	89%	92%	89%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

6.3.1  
6

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12944-15MS	N66855.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15MSD	N66856.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15 <sup>a</sup>	N66847.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12941-1

CAS No.	Compound	MC12944-15 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q ug/l	ug/l	%	ug/l	ug/l	%		Rec/RPD
71-43-2	Benzene	ND	250	204	82	250	202	81	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC12944-15 Limits	
1868-53-7	Dibromofluoromethane	85%	88%	93%	70-130%
2037-26-5	Toluene-D8	96%	97%	94%	70-130%
460-00-4	4-Bromofluorobenzene	94%	93%	100%	70-130%

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

\* = Outside of Control Limits.

6.3.2  
 6

# Volatile Internal Standard Area Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2512-CC2468	Injection Date:	08/17/12
Lab File ID:	N66782.D	Injection Time:	13:54
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	152398	9.02	231186	9.89	113397	13.14	114179	15.70	64322	6.56
Upper Limit <sup>a</sup>	304796	9.52	462372	10.39	226794	13.64	228358	16.20	128644	7.06
Lower Limit <sup>b</sup>	76199	8.52	115593	9.39	56699	12.64	57090	15.20	32161	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2512-BS	168359	9.02	240070	9.89	131037	13.14	127328	15.70	61307	6.56
MSN2512-BSD	149437	9.02	248165	9.89	123957	13.14	115078	15.70	55717	6.56
MSN2512-MB	160331	9.02	240599	9.89	119577	13.15	95607	15.70	52979	6.57
ZZZZZZ	141818	9.02	220974	9.89	108889	13.15	90986	15.71	48285	6.58
ZZZZZZ	161924	9.02	241742	9.89	123121	13.14	122197	15.70	61137	6.56
MC12870-4	172211	9.02	257763	9.89	127732	13.15	125716	15.70	53392	6.57
MC12870-4MS	169372	9.02	254380	9.89	127924	13.14	126190	15.70	67500	6.56
MC12870-4MSD	167570	9.02	256902	9.89	130163	13.15	122765	15.70	65039	6.57
ZZZZZZ	168232	9.02	255625	9.89	122507	13.15	113092	15.70	58241	6.57
MC12941-2	162723	9.02	246607	9.89	119504	13.15	108680	15.71	58589	6.57
ZZZZZZ	165338	9.03	308089	9.90	146653	13.14	142458	15.70	66476	6.56
ZZZZZZ	185538	9.02	282422	9.89	134586	13.15	128702	15.70	63908	6.57
ZZZZZZ	188683	9.02	292377	9.89	136531	13.15	127541	15.70	71167	6.57
ZZZZZZ	190386	9.02	312657	9.89	145931	13.15	135350	15.70	70801	6.57
ZZZZZZ	205011	9.02	332909	9.89	155770	13.14	145381	15.70	69451	6.56
MC12941-1	209507	9.03	349371	9.90	158586	13.14	147822	15.70	72286	6.56
ZZZZZZ	197163	9.02	330863	9.89	154875	13.15	139946	15.70	74190	6.56
ZZZZZZ	211551	9.02	348439	9.89	158491	13.15	148021	15.70	77402	6.56
ZZZZZZ	202409	9.02	313303	9.89	143668	13.15	130293	15.70	73049	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.1  
6

# Volatile Internal Standard Area Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2514-CC2468	Injection Date:	08/20/12
Lab File ID:	N66835.D	Injection Time:	08:49
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
Upper Limit <sup>a</sup>	238570	9.52	355844	10.39	202392	13.65	187186	16.20	96770	7.06
Lower Limit <sup>b</sup>	59643	8.52	88961	9.39	50598	12.65	46797	15.20	24193	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2514-BS	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
MSN2514-BSD	131527	9.02	194742	9.89	104163	13.15	97420	15.70	51745	6.56
MSN2514-MB	116175	9.02	175016	9.89	91498	13.15	82202	15.70	53764	6.57
ZZZZZZ	110387	9.02	161728	9.89	85841	13.15	72844	15.71	51759	6.57
ZZZZZZ	103985	9.02	152724	9.89	81698	13.14	79453	15.70	42536	6.57
ZZZZZZ	120794	9.02	180937	9.88	102916	13.15	99655	15.70	52693	6.56
ZZZZZZ	132300	9.02	196454	9.89	102351	13.15	88889	15.70	51415	6.56
ZZZZZZ	128302	9.02	189196	9.89	98361	13.15	84824	15.70	53230	6.57
ZZZZZZ	115479	9.02	171824	9.89	90654	13.15	77410	15.70	44901	6.57
ZZZZZZ	118516	9.02	173218	9.89	90126	13.15	75951	15.70	44246	6.57
ZZZZZZ	114874	9.02	171628	9.89	90059	13.15	79557	15.70	41446	6.57
MC12944-15	107209	9.02	160640	9.89	81210	13.15	71103	15.70	41687	6.57
ZZZZZZ	106676	9.01	163106	9.89	86273	13.15	71137	15.70	45130	6.56
ZZZZZZ	107118	9.02	158683	9.89	85706	13.15	74032	15.70	40817	6.57
ZZZZZZ	107424	9.02	161341	9.89	85386	13.15	71739	15.70	43608	6.57
ZZZZZZ	108875	9.02	168961	9.88	97176	13.15	99551	15.70	43349	6.56
MC12944-15MS	143688	9.02	210891	9.89	114622	13.15	105761	15.70	56406	6.56
MC12944-15MSD	140640	9.01	209077	9.88	108708	13.15	104319	15.70	55543	6.56
ZZZZZZ	139105	9.02	208838	9.89	105188	13.14	94258	15.70	55629	6.56
MC12941-1 <sup>c</sup>	132779	9.02	201615	9.89	102905	13.15	90402	15.70	48467	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

6.4.2

6

# Volatile Surrogate Recovery Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12941-1	N66858.D	91	95	100
MC12941-1	N66803.D	76	91	90
MC12941-2	N66796.D	83	95	97
MC12870-4MS	N66792.D	82	97	89
MC12870-4MSD	N66793.D	81	94	92
MC12944-15MS	N66855.D	85	96	94
MC12944-15MSD	N66856.D	88	97	93
MSN2512-BS	N66783.D	82	102	87
MSN2512-BSD	N66784.D	83	97	96
MSN2512-MB	N66786.D	85	97	101
MSN2514-BS	N66835.D	91	98	93
MSN2514-BSD	N66836.D	90	97	96
MSN2514-MB	N66838.D	94	96	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.5.1  
6

**GC/MS Semi-volatiles**

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**QC Data Summaries****7**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MB	W3868.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	0.37	5.0	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7



# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MB	W3868.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	34%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	67%	15-110%
4165-60-0	Nitrobenzene-d5	68%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	100%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-MB	U9176.D	1	08/13/12	NS	08/09/12	OP29979	MSU508

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	92%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-BS	W3869.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	32.2	32	30-130
95-57-8	2-Chlorophenol	100	71.8	72	30-130
59-50-7	4-Chloro-3-methyl phenol	100	78.6	79	30-130
120-83-2	2,4-Dichlorophenol	100	78.4	78	30-130
105-67-9	2,4-Dimethylphenol	100	71.7	72	30-130
51-28-5	2,4-Dinitrophenol	100	79.7	80	30-130
534-52-1	4,6-Dinitro-o-cresol	100	105	105	30-130
95-48-7	2-Methylphenol	100	63.0	63	30-130
	3&4-Methylphenol	200	124	62	30-130
88-75-5	2-Nitrophenol	100	82.4	82	30-130
100-02-7	4-Nitrophenol	100	4.0	4* a	30-130
87-86-5	Pentachlorophenol	100	79.9	80	30-130
108-95-2	Phenol	100	35.0	35	30-130
95-95-4	2,4,5-Trichlorophenol	100	84.6	85	30-130
88-06-2	2,4,6-Trichlorophenol	100	83.4	83	30-130
62-53-3	Aniline	50	17.2	34* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	44.8	90	40-140
85-68-7	Butyl benzyl phthalate	50	49.4	99	40-140
100-51-6	Benzyl Alcohol	50	33.5	67	40-140
91-58-7	2-Chloronaphthalene	50	39.8	80	40-140
106-47-8	4-Chloroaniline	50	32.6	65	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	44.3	89	40-140
111-44-4	bis(2-Chloroethyl)ether	50	43.8	88	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	49.4	99	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	44.8	90	40-140
122-66-7	1,2-Diphenylhydrazine	50	50.0	100	40-140
121-14-2	2,4-Dinitrotoluene	50	46.0	92	40-140
606-20-2	2,6-Dinitrotoluene	50	45.3	91	40-140
91-94-1	3,3'-Dichlorobenzidine	50	50.7	101	40-140
132-64-9	Dibenzofuran	50	40.3	81	40-140
84-74-2	Di-n-butyl phthalate	50	49.0	98	40-140
117-84-0	Di-n-octyl phthalate	50	58.5	117	40-140
84-66-2	Diethyl phthalate	50	47.4	95	40-140
131-11-3	Dimethyl phthalate	50	45.5	91	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	49.8	100	40-140
118-74-1	Hexachlorobenzene	50	45.9	92	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-BS	W3869.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	8.9	18* a	40-140
67-72-1	Hexachloroethane	50	27.2	54	40-140
78-59-1	Isophorone	50	42.8	86	40-140
88-74-4	2-Nitroaniline	50	44.5	89	40-140
99-09-2	3-Nitroaniline	50	39.0	78	40-140
100-01-6	4-Nitroaniline	50	38.2	76	40-140
98-95-3	Nitrobenzene	50	43.9	88	40-140
62-75-9	n-Nitrosodimethylamine	50	26.4	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	47.4	95	40-140
86-30-6	N-Nitrosodiphenylamine	50	46.2	92	40-140
110-86-1	Pyridine	50	23.2	46	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	46%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	15-110%
4165-60-0	Nitrobenzene-d5	86%	30-130%
321-60-8	2-Fluorobiphenyl	73%	30-130%
1718-51-0	Terphenyl-d14	104%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-BS	U9177.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
OP29979-BSD	U9253.D	1	08/16/12	NS	08/09/12	OP29979	MSU511

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12941-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	38.6	77	38.5	77	0	40-140/30
208-96-8	Acenaphthylene	50	28.3	57	28.0	56	1	40-140/30
120-12-7	Anthracene	50	41.6	83	39.0	78	6	40-140/30
56-55-3	Benzo(a)anthracene	50	46.7	93	42.4	85	10	40-140/30
50-32-8	Benzo(a)pyrene	50	46.5	93	36.1	72	25	40-140/30
205-99-2	Benzo(b)fluoranthene	50	55.2	110	41.1	82	29	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	47.1	94	36.4	73	26	40-140/30
207-08-9	Benzo(k)fluoranthene	50	56.2	112	44.4	89	23	40-140/30
218-01-9	Chrysene	50	42.5	85	37.8	76	12	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	49.1	98	36.3	73	30	40-140/30
206-44-0	Fluoranthene	50	40.7	81	40.8	82	0	40-140/30
86-73-7	Fluorene	50	40.1	80	38.5	77	4	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	48.9	98	37.3	75	27	40-140/30
90-12-0	1-Methylnaphthalene	50	28.3	57	43.8	88	43* a	40-140/30
91-57-6	2-Methylnaphthalene	50	31.9	64	40.5	81	24	40-140/30
91-20-3	Naphthalene	50	32.6	65	34.2	68	5	40-140/30
85-01-8	Phenanthrene	50	41.6	83	39.2	78	6	40-140/30
129-00-0	Pyrene	50	39.1	78	39.2	78	0	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	83%	82%	30-130%
321-60-8	2-Fluorobiphenyl	70%	73%	30-130%
1718-51-0	Terphenyl-d14	103%	76%	30-130%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MS	W3875.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
OP29978-MSD	W3876.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
MC12994-1	W3877.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	MC12994-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	34.2	34	100	35.0	35	2	30-130/20
95-57-8	2-Chlorophenol	ND	100	72.3	72	100	71.2	71	2	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	79.8	80	100	78.3	78	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	79.8	80	100	77.9	78	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	70.0	70	100	77.0	77	10	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	73.2	73	100	81.1	81	10	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	96.3	96	100	103	103	7	30-130/20
95-48-7	2-Methylphenol	ND	100	63.9	64	100	63.0	63	1	30-130/20
	3&4-Methylphenol	ND	200	125	63	200	123	62	2	30-130/20
88-75-5	2-Nitrophenol	ND	100	83.1	83	100	82.7	83	0	30-130/20
100-02-7	4-Nitrophenol	ND	100	ND	0* a	100	ND	0* a	nc	30-130/20
87-86-5	Pentachlorophenol	ND	100	81.7	82	100	77.7	78	5	30-130/20
108-95-2	Phenol	ND	100	36.0	36	100	33.1	33	8	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	85.1	85	100	84.2	84	1	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	84.9	85	100	84.6	85	0	30-130/20
62-53-3	Aniline	ND	50	17.7	35* a	50	ND	0* a	200* b	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	44.8	90	50	43.6	87	3	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	50.0	100	50	50.5	101	1	40-140/20
100-51-6	Benzyl Alcohol	ND	50	33.9	68	50	31.3	63	8	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	38.8	78	50	41.6	83	7	40-140/20
106-47-8	4-Chloroaniline	ND	50	32.4	65	50	3.1	6* a	165* b	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	44.9	90	50	43.7	87	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	44.0	88	50	42.7	85	3	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	49.4	99	50	50.4	101	2	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	44.7	89	50	46.1	92	3	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	49.7	99	50	48.2	96	3	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	45.3	91	50	46.1	92	2	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	45.0	90	50	44.7	89	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	48.8	98	50	ND	0* a	200* b	40-140/20
132-64-9	Dibenzofuran	ND	50	39.5	79	50	41.2	82	4	40-140/20
84-74-2	Di-n-butyl phthalate	ND	50	49.2	98	50	48.9	98	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	59.4	119	50	64.2	128	8	40-140/20
84-66-2	Diethyl phthalate	0.26	50	48.2	96	50	47.7	95	1	40-140/20
131-11-3	Dimethyl phthalate	ND	50	44.4	89	50	44.9	90	1	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND	50	50.3	101	50	50.6	101	1	40-140/20
118-74-1	Hexachlorobenzene	ND	50	46.3	93	50	44.9	90	3	40-140/20

\* = Outside of Control Limits.

7.4.1  
7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MS	W3875.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
OP29978-MSD	W3876.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
MC12994-1	W3877.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12941-1

CAS No.	Compound	MC12994-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	8.6	17* a	50	10.5	21* a	20	40-140/20
67-72-1	Hexachloroethane	ND	50	26.9	54	50	30.2	60	12	40-140/20
78-59-1	Isophorone	ND	50	43.0	86	50	42.9	86	0	40-140/20
88-74-4	2-Nitroaniline	ND	50	44.6	89	50	43.2	86	3	40-140/20
99-09-2	3-Nitroaniline	ND	50	37.8	76	50	0.73	1* a	192* b	40-140/20
100-01-6	4-Nitroaniline	ND	50	37.0	74	50	13.1	26* a	95* b	40-140/20
98-95-3	Nitrobenzene	ND	50	44.2	88	50	44.6	89	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	26.5	53	50	27.0	54	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	48.2	96	50	49.2	98	2	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	46.0	92	50	36.1	72	24* b	40-140/20
110-86-1	Pyridine	ND	50	24.0	48	50	ND	0* a	200* b	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12994-1	Limits
367-12-4	2-Fluorophenol	47%	45%	39%	15-110%
4165-62-2	Phenol-d5	34%	32%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	89%	75%	15-110%
4165-60-0	Nitrobenzene-d5	86%	87%	79%	30-130%
321-60-8	2-Fluorobiphenyl	72%	77%	69%	30-130%
1718-51-0	Terphenyl-d14	105%	105%	104%	30-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.4.1  
 7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-MS	U9178.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
OP29979-MSD	U9179.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
MC12994-2	U9180.D	1	08/13/12	NS	08/09/12	OP29979	MSU508

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12941-1

CAS No.	Compound	MC12994-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	38.3	77	50	39.6	79	3	40-140/20
208-96-8	Acenaphthylene	ND	50	28.1	56	50	28.5	57	1	40-140/20
120-12-7	Anthracene	ND	50	40.2	80	50	39.7	79	1	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	46.1	92	50	45.6	91	1	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	46.1	92	50	54.2	108	16	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	53.4	107	50	67.2	134	23* a	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	47.6	95	50	56.2	112	17	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	55.6	111	50	70.4	141* b	23* a	40-140/20
218-01-9	Chrysene	ND	50	42.6	85	50	42.9	86	1	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	48.9	98	50	61.6	123	23* a	40-140/20
206-44-0	Fluoranthene	ND	50	39.4	79	50	40.7	81	3	40-140/20
86-73-7	Fluorene	ND	50	39.9	80	50	40.3	81	1	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	49.2	98	50	59.7	119	19	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	25.3	51	50	33.2	66	27* a	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	31.7	63	50	34.3	69	8	40-140/20
91-20-3	Naphthalene	ND	50	32.7	65	50	35.0	70	7	40-140/20
85-01-8	Phenanthrene	ND	50	40.7	81	50	41.3	83	1	40-140/20
129-00-0	Pyrene	ND	50	38.1	76	50	39.0	78	2	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12994-2	Limits
4165-60-0	Nitrobenzene-d5	83%	84%	76%	30-130%
321-60-8	2-Fluorobiphenyl	71%	73%	68%	30-130%
1718-51-0	Terphenyl-d14	99%	104%	96%	30-130%

- (a) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

7.4.2  
7



# Semivolatile Internal Standard Area Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	74183	3.74	215966	4.72	121568	6.14	231849	7.44	157950	10.22	287514	11.67
Upper Limit <sup>a</sup>	148366	4.24	431932	5.22	243136	6.64	463698	7.94	315900	10.72	575028	12.17
Lower Limit <sup>b</sup>	37092	3.24	107983	4.22	60784	5.64	115925	6.94	78975	9.72	143757	11.17

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29999-MS	71583	3.74	207520	4.72	112545	6.14	209934	7.45	83852	10.22	111938 <sup>c</sup>	11.66
OP29999-MSD	71233	3.74	203886	4.72	109746	6.14	205650	7.44	83352	10.22	114920 <sup>c</sup>	11.66
MC12978-4	69748	3.74	200172	4.72	109689	6.14	203795	7.44	88467	10.22	120327 <sup>c</sup>	11.66
ZZZZZZ	72217	3.74	205369	4.72	111617	6.14	207245	7.44	92848	10.22	130035 <sup>c</sup>	11.66
ZZZZZZ	72201	3.74	204902	4.72	112553	6.14	208471	7.44	93883	10.22	130090 <sup>c</sup>	11.66
ZZZZZZ	68332	3.74	196326	4.72	106309	6.14	198140	7.44	91794	10.22	127541 <sup>c</sup>	11.66
ZZZZZZ	68525	3.74	193092	4.72	106918	6.14	198831	7.44	109460	10.22	161532	11.66
ZZZZZZ	64898	3.74	184919	4.72	100976	6.14	189141	7.44	69395 <sup>c</sup>	10.22	94469 <sup>c</sup>	11.66
ZZZZZZ	73978	3.74	210885	4.72	115830	6.14	212901	7.44	79723	10.22	107257 <sup>c</sup>	11.66
ZZZZZZ	64928	3.74	189697	4.72	102497	6.14	186877	7.44	71573 <sup>c</sup>	10.22	96546 <sup>c</sup>	11.66
ZZZZZZ	71004	3.74	203218	4.72	113722	6.14	213711	7.44	141576	10.22	199474	11.66
ZZZZZZ	70986	3.74	202204	4.72	112847	6.14	209861	7.44	144823	10.22	199711	11.66
OP29979-MB	66015	3.74	192336	4.72	106078	6.14	197204	7.44	137291	10.22	217162	11.66
OP29979-BS	63085	3.74	184334	4.72	100797	6.14	185462	7.45	126986	10.23	206580	11.66
OP29979-MS	60942	3.74	176504	4.72	98042	6.14	188532	7.45	132951	10.23	219452	11.66
OP29979-MSD	67652	3.74	194177	4.72	108229	6.14	201785	7.45	134825	10.23	173460	11.67
MC12994-2	66309	3.74	193152	4.72	106374	6.14	198533	7.44	137855	10.22	234364	11.66
MC12941-1	65411	3.74	188895	4.72	106106	6.14	197315	7.44	139482	10.22	230154	11.66
ZZZZZZ	64629	3.74	188478	4.72	105190	6.14	194361	7.44	138043	10.22	229882	11.66
ZZZZZZ	62752	3.74	186064	4.72	99713	6.14	183392	7.44	129195	10.22	229281	11.67
ZZZZZZ	63779	3.74	191425	4.72	101337	6.14	190332	7.45	133777	10.22	236316	11.67
ZZZZZZ	67061	3.74	195745	4.72	107355	6.14	200814	7.44	141954	10.22	243369	11.66
MC12978-4	71272	3.74	203022	4.72	113316	6.14	206807	7.44	89607	10.22	124219 <sup>c</sup>	11.66
ZZZZZZ	67065	3.74	192739	4.72	105486	6.14	196366	7.44	90479	10.22	128564 <sup>c</sup>	11.66
ZZZZZZ	67697	3.74	194421	4.72	108014	6.13	203927	7.44	95375	10.22	135262 <sup>c</sup>	11.66
ZZZZZZ	71130	3.74	205153	4.72	109730	6.14	204141	7.44	94580	10.22	131219 <sup>c</sup>	11.66
ZZZZZZ	64007	3.74	183110	4.72	101259	6.14	187958	7.44	71606 <sup>c</sup>	10.22	96577 <sup>c</sup>	11.66
ZZZZZZ	73579	3.74	211712	4.72	117518	6.14	216650	7.44	83184	10.22	109599 <sup>c</sup>	11.66
ZZZZZZ	66563	3.74	197066	4.72	106019	6.14	195577	7.44	73907 <sup>c</sup>	10.22	98115 <sup>c</sup>	11.66

IS 1 = 1,4-Dichlorobenzene-d4  
 IS 2 = Naphthalene-d8  
 IS 3 = Acenaphthene-D10  
 IS 4 = Phenanthrene-d10  
 IS 5 = Chrysene-d12

7.5.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12941  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Results confirmed by reanalysis.

7.5.1

7

# Semivolatile Internal Standard Area Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU511-CC486	Injection Date:	08/16/12
Lab File ID:	U9252.D	Injection Time:	11:52
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	77180	3.69	271247	4.67	152714	6.08	281214	7.39	173656	10.17	300854	11.60
Upper Limit <sup>a</sup>	154360	4.19	542494	5.17	305428	6.58	562428	7.89	347312	10.67	601708	12.10
Lower Limit <sup>b</sup>	38590	3.19	135624	4.17	76357	5.58	140607	6.89	86828	9.67	150427	11.10

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29979-BSD	64070	3.69	188036	4.67	122814	6.08	222734	7.39	137688	10.17	253155	11.60
ZZZZZZ	64568	3.69	192030	4.67	123624	6.08	221264	7.39	142896	10.17	264196	11.60
ZZZZZZ	60091	3.69	212907	4.67	117739	6.08	216394	7.39	137136	10.17	248891	11.60
ZZZZZZ	62743	3.69	221244	4.67	120264	6.08	222778	7.39	139035	10.17	259339	11.60
ZZZZZZ	61916	3.69	179989	4.67	120528	6.08	219716	7.39	138321	10.17	251756	11.60
ZZZZZZ	63465	3.69	223690	4.67	121939	6.08	222311	7.39	139876	10.17	259912	11.60
ZZZZZZ	63941	3.69	225680	4.67	120670	6.08	219857	7.39	137887	10.17	253022	11.60
ZZZZZZ	65155	3.69	222882	4.67	122908	6.08	225164	7.39	141973	10.17	261700	11.60

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.5.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW176-CC129	Injection Date:	08/13/12
Lab File ID:	W3865.D	Injection Time:	08:38
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	568383	3.79	2125545	4.78	1331140	6.20	2438245	7.53	2961924	10.42	2555816	11.99
Upper Limit <sup>a</sup>	1136766	4.29	4251090	5.28	2662280	6.70	4876490	8.03	5923848	10.92	5111632	12.49
Lower Limit <sup>b</sup>	284192	3.29	1062773	4.28	665570	5.70	1219123	7.03	1480962	9.92	1277908	11.49

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29988-MB	516437	3.79	1925687	4.78	1136646	6.20	2008432	7.52	2393291	10.40	1994564	11.98
OP29988-BS	521823	3.79	1912591	4.78	1156624	6.20	2055114	7.52	2499894	10.41	2017284	11.98
OP29978-MB	432371	3.79	1622075	4.78	973554	6.20	1748206	7.52	2056611	10.40	1775418	11.98
OP29978-BS	427284	3.79	1583039	4.78	955279	6.20	1675200	7.52	2069232	10.41	1710873	11.98
ZZZZZZ	492492	3.79	1769695	4.78	1039226	6.20	1786427	7.52	1602635	10.41	1184919*	11.98
ZZZZZZ	544145	3.79	1983541	4.77	1163800	6.20	1958882	7.52	1740202	10.40	1295358	11.98
ZZZZZZ	522715	3.79	1907276	4.78	1111283	6.20	1898199	7.52	1428195 <sup>c</sup>	10.40	1047966 <sup>c</sup>	11.98
ZZZZZZ	512687	3.79	1854313	4.78	1102200	6.20	1890351	7.52	1476916 <sup>c</sup>	10.41	1080093 <sup>c</sup>	11.98
ZZZZZZ	493574	3.79	1790553	4.78	1044489	6.20	1789889	7.52	1487663	10.40	1090677 <sup>c</sup>	11.98
OP29978-MS	464735	3.79	1707028	4.78	1032699	6.20	1786358	7.52	2128910	10.41	1767891	11.98
OP29978-MSD	456249	3.79	1673903	4.78	996564	6.20	1763994	7.52	2085759	10.41	1617159	11.98
MC12994-1	507378	3.79	1872516	4.78	1117929	6.20	2005153	7.52	2306028	10.41	2097976	11.98
MC12941-1	511202	3.79	1918461	4.78	1142125	6.20	2023012	7.52	2317870	10.41	2090413	11.98
ZZZZZZ	500453	3.79	1839073	4.78	1095290	6.20	1963795	7.52	2242357	10.40	2031102	11.98
ZZZZZZ	499219	3.79	1871439	4.77	1086411	6.20	1923794	7.52	2139468	10.41	2058752	11.98
ZZZZZZ	503792	3.79	1833018	4.78	1100117	6.20	1952388	7.52	2222439	10.41	2127147	11.98
ZZZZZZ	458335	3.79	1735032	4.77	1048235	6.20	1820657	7.52	2086949	10.40	2156640	11.98
ZZZZZZ	533727	3.79	1972738	4.77	1162790	6.20	1961156	7.52	2112078	10.40	2402051	11.98
OP29988-MS	478820	3.79	1752350	4.78	1052462	6.20	1788383	7.52	2110894	10.41	1827710	11.98
OP29988-MSD	476151	3.79	1746310	4.77	1042347	6.20	1816722	7.52	2204558	10.42	1943956	11.99
MC12990-9	456865	3.79	1679291	4.77	996637	6.20	1716306	7.52	2037725	10.41	1831271	11.98
ZZZZZZ	466445	3.79	1683886	4.78	980058	6.20	1694356	7.52	2011202	10.41	1888710	12.00
ZZZZZZ	502985	3.79	1812686	4.78	1069342	6.20	1837698	7.53	2520378	10.43	2468344	12.03
ZZZZZZ	482930	3.79	1720255	4.78	988575	6.20	1682044	7.53	2055777	10.42	1989537	12.01
ZZZZZZ	490028	3.79	1769741	4.78	1038525	6.20	1788656	7.53	2019205	10.42	1893719	12.00
ZZZZZZ	426942	3.79	1587863	4.78	963575	6.20	1748456	7.52	2144011	10.42	1903023	12.00
ZZZZZZ	501667	3.79	1784066	4.78	1046105	6.20	1721303	7.53	1871444	10.42	1768674	12.00
ZZZZZZ	542676	3.79	1961558	4.78	1181414	6.20	1973179	7.53	2299018	10.42	2132281	12.00

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

7.5.3  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12941  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW176-CC129	Injection Date:	08/13/12
Lab File ID:	W3865.D	Injection Time:	08:38
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

# Semivolatile Surrogate Recovery Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12941-1	W3878.D	34	25	80	75	68	96
OP29978-BS	W3869.D	46	33	90	86	73	104
OP29978-MB	W3868.D	34	24	67	68	61	100
OP29978-MS	W3875.D	47	34	93	86	72	105
OP29978-MSD	W3876.D	45	32	89	87	77	105

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.6.1

7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12941-1	U9181.D	74	67	87
OP29979-BS	U9177.D	83	70	103
OP29979-BSD	U9253.D	82	73	76
OP29979-MB	U9176.D	67	61	92
OP29979-MS	U9178.D	83	71	99
OP29979-MSD	U9179.D	84	73	104

**Surrogate Compounds**                      **Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.6.2

7

## GC Volatiles

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## QC Data Summaries



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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries



# Method Blank Summary

Job Number: MC12941  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-MB	BK15906.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples:

Method: SW846 8011

MC12941-1, MC12941-3

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	89%	36-173%
460-00-4	Bromofluorobenzene (S)	102%	36-173%

8.1.1  
8

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-BS	BK15908.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
OP29956-BSD	BK15909.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples:

Method: SW846 8011

MC12941-1, MC12941-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.072	101	0.072	101	0	60-140/30
106-93-4	1,2-Dibromoethane	0.071	0.070	99	0.069	97	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	Bromofluorobenzene (S)	92%	93%	36-173%
460-00-4	Bromofluorobenzene (S)	108%	110%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29956-MS	BK15910.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
OP29956-MSD	BK15911.D	1	08/09/12	AP	08/08/12	OP29956	GBK604
MC12879-8	BK15912.D	1	08/09/12	AP	08/08/12	OP29956	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12941-1, MC12941-3

CAS No.	Compound	MC12879-8 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.071	0.076	107	0.071	0.078	110	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.071	0.071	100	0.071	0.074	104	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-8	Limits
460-00-4	Bromofluorobenzene (S)	100%	100%	96%	36-173%
460-00-4	Bromofluorobenzene (S)	109%	114%	107%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12941

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12941-1	BK15931.D	82	98
MC12941-3	BK15932.D	90	110
OP29956-BS	BK15908.D	92	108
OP29956-BSD	BK15909.D	93	110
OP29956-MB	BK15906.D	89	102
OP29956-MS	BK15910.D	100	109
OP29956-MSD	BK15911.D	100	114

Surrogate Compounds                      Recovery Limits

S1 = Bromofluorobenzene (S)                      36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-ICC604	Injection Date:	08/09/12
Lab File ID:	BK15900.D	Injection Time:	17:12
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.39
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
OP29956-MB	BK15906.D	08/09/12	19:38	5.28	4.40
ZZZZZZ	BK15907.D	08/09/12	20:03	5.28	4.40
OP29956-BS	BK15908.D	08/09/12	20:27	5.28	4.40
OP29956-BSD	BK15909.D	08/09/12	20:51	5.28	4.40
OP29956-MS	BK15910.D	08/09/12	21:15	5.28	4.40
OP29956-MSD	BK15911.D	08/09/12	21:39	5.28	4.40
MC12879-8	BK15912.D	08/09/12	22:04	5.28	4.40
ZZZZZZ	BK15913.D	08/09/12	22:28	5.28	4.40
ZZZZZZ	BK15914.D	08/09/12	22:52	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12941  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15926.D	Injection Time:	03:45
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15927.D	08/10/12	04:10	5.28	4.40
ZZZZZZ	BK15928.D	08/10/12	04:34	5.28	4.40
ZZZZZZ	BK15929.D	08/10/12	04:59	5.28	4.40
ZZZZZZ	BK15930.D	08/10/12	05:23	5.28	4.40
MC12941-1	BK15931.D	08/10/12	05:48	5.28	4.40
MC12941-3	BK15932.D	08/10/12	06:12	5.28	4.40
OP29955-MB	BK15933.D	08/10/12	06:37	5.28	4.40
OP29955-BS	BK15934.D	08/10/12	07:01	5.28	4.40
OP29955-MS	BK15935.D	08/10/12	07:26	5.28	4.40
OP29955-MSD	BK15936.D	08/10/12	07:50	5.28	4.40

**Surrogate Compounds**

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

### Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC12942

Sampling Date: 08/07/12

### Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 90



Test results contained within this data package meet the requirements  
of the National Environmental Laboratory Accreditation Program  
and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791)  
NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220)  
DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



ACCUTEST

October 21, 2016

AECOM  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110

RE: SGS Accutest Job # MC12942

Dear Elizabeth Kunkel

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

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TESTING AND CERTIFICATION COMPANY.



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### Sample Summary

Shell Oil

Job No: MC12942

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC12942-1	08/07/12	10:30	DMNMD8/08/12	AQ	Ground Water	ROST3PZ-ROX-080712
MC12942-2	08/07/12	12:55	DMNMD8/08/12	AQ	Ground Water	MW8-ROX-080712
MC12942-3	08/07/12	12:55	DMNMD8/08/12	AQ	Ground Water	MW8-ROX-080712-DUP
MC12942-4	08/07/12	00:00	DMNMD8/08/12	AQ	Trip Blank Water	TB-080712-HCL
MC12942-5	08/07/12	00:00	DMNMD8/08/12	AQ	Trip Blank Water	TB-080712-ST

# SAMPLE DELIVERY GROUP CASE NARRATIVE



**Client:** She O

**Job No** MC 2942

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 0/2 /20 6 4: 7:55 P

3 Samp e(s), 2 Tr p B ank(s) and 0 F e d B ank(s) were co ected on 08/07/20 2 and were rece ved at SGS Accutest New Eng and on 08/08/20 2 proper y preserved, at 3 7 Deg C and n tact These Samp es rece ved a job number of MC 2942 A st ng of the Laboratory Samp e ID, C ent Samp e ID and dates of co ect on are presented n the Resu ts Summary Sect on of th s repo t - Ch orohexane, Benzeneth o , D benz(a,h)acr d ne, Indene and Qu no ne were searched n the brary search and reported on y f detect ons were found

Except as noted be ow, a method spec f ed ca brat ons and qua ty contro performance cr ter a were met for th s job For more nformat on, p ease refer to QC summary pages

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** MSN25 2

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 2870-4MS, MC 2870-4MSD were used as the QC samp es nd cated
- A method b anks for th s batch meet method spec f c cr ter a
- B ank Sp ke/B ank Sp ke Dup, Recovery(s) for Acry on tr e, Acro e n are outs de contro m ts
- Matr x Sp ke Recovery(s) for Acetone, Acro e n, Acry on tr e are outs de contro m ts Outs de contro m ts due to poss b e matr x nterference Refer to B ank Sp ke
- Matr x Sp ke Dup cate Recovery(s) for Acetone, Acro e n are outs de contro m ts Probab e cause due to matr x nterference
- MC 2942-3 for Acetone: In t a Ca brat on Ver f cat on outs de of acceptance cr ter a Samp e resu t may be b ased h gh
- Acro e n: In t a Ca brat on Ver f cat on outs de of acceptance cr ter a Samp e resu t may be b ased ow
- MC 2942-2 for Acetone: In t a Ca brat on Ver f cat on outs de of acceptance cr ter a Samp e resu t may be b ased h gh
- MC 2870-4MS for Acry on tr e: Outs de contro m ts Assoc ated samp es are non-detect for th s compound
- MSN25 2-BS for Acry on tr e: Outs de contro m ts Assoc ated samp es are non-detect for th s compound
- In t a ca brat on Ver f cat on standard for Acetone exceeds 50% D fference An ne s w th n cr ter a n cont nu ng ca brat on check standard

**Matrix:** AQ **Batch ID:** MSN25 4

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 2944- 5MS, MC 2944- 5MSD were used as the QC samp es nd cated
- A method b anks for th s batch meet method spec f c cr ter a
- MC 2942-2, MC 2942-3: V ny Ch or de (CCC's) do not meet the reference method acceptance cr ter a n nstrument QC and resu ts may be b ased ow

**Matrix:** AQ **Batch ID:** MSN25 5

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 3 42- MS, MC 3 42- MSD were used as the QC samp es nd cated
- A method b anks for th s batch meet method spec f c cr ter a
- B ank Sp ke/B ank Sp ke Dup Recovery(s) for Acry on tr e, Acro e n, D ch orod f uoromethane, Tr ch orof uoromethane, V ny ch or de are outs de contro m ts
- Matr x Sp ke Recovery(s) for Acro e n, Ch oromethane, D ch orod f uoromethane, Tr ch orof uoromethane, V ny ch or de, Acry on tr e are outs de contro m ts Outs de contro m ts due to poss b e matr x nterference Refer to B ank Sp ke
- Matr x Sp ke Dup cate Recovery(s) for Acro e n, Ch oromethane, D ch orod f uoromethane, Tr ch orof uoromethane, V ny ch or de are outs de contro m ts Probab e cause due to matr x nterference
- MSN25 5-BS for Acry on tr e: Outs de contro m ts Assoc ated samp es are non-detect for th s compound
- MC 3 42- MS for Acry on tr e: Outs de contro m ts Assoc ated samp es are non-detect for th s compound
- MC 2942- for Acro e n: In t a Ca brat on Ver f cat on outs de of acceptance cr ter a Samp e resu t may be b ased ow

Friday, October 21, 2016

Page 1 of 2

## Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ

**Batch ID:** OP29978

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- A method blanks for this batch meet method specification
- Sample(s) MC 2994-MS, MC 2994-MSD were used as the QC samples indicated
- Blank Spike Recovery(s) for 4-N tropheno, Aniline, Hexachlorocyclopentadiene are out of control limits
- Matrix Spike Recovery(s) for 4-N tropheno, Aniline, Hexachlorocyclopentadiene are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 4-N tropheno, Hexachlorocyclopentadiene, 3,3'-Dichlorobenzene, 3-N tropheno, 4-Chloroaniline, 4-N tropheno, Aniline, Pyridine are out of control limits. High RPD due to possible matrix interference and/or sample non-homogeneity
- RPD(s) for MSD for 3,3'-Dichlorobenzene, 3-N tropheno, 4-Chloroaniline, 4-N tropheno, Aniline, N-Nitrosodiphenylamine, Pyridine are out of control limits for sample OP29978-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ

**Batch ID:** OP29979

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- A method blanks for this batch meet method specification
- Sample(s) MC 2994-2MS, MC 2994-2MSD were used as the QC samples indicated
- Matrix Spike Duplicate Recovery(s) for Benzo(k)fluoranthene are out of control limits. High RPD due to possible matrix interference and/or sample non-homogeneity
- RPD(s) for MSD for 1-Methylnaphthalene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene are out of control limits for sample OP29979-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity
- OP29979-BSD for 1-Methylnaphthalene: Out of control limits. Individual spike recoveries within acceptance limits

## Volatiles by GC By Method SW846 8011

**Matrix:** AQ

**Batch ID:** OP29955

- A samples were extracted with the recommended method holding time
- A samples were analyzed with the recommended method holding time
- Sample(s) MC 2879-7MS, MC 2879-7MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

SGS Accutest New England certifies that analyses were performed with method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 2942)

# Summary of Hits

Job Number: MC12942  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/07/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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**MC12942-1 ROST3PZ-ROX-080712**

Benzene	4.1	0.50	0.24	ug/l	SW846 8260B
tert-Butylbenzene	0.72 J	5.0	0.64	ug/l	SW846 8260B
Ethylbenzene	4.7	1.0	0.51	ug/l	SW846 8260B
Toluene	1.5	1.0	0.51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	4.2 J	5.0	0.35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	1.2 J	5.0	0.47	ug/l	SW846 8260B
m,p-Xylene	28.9	1.0	0.73	ug/l	SW846 8260B
o-Xylene	7.4	1.0	0.58	ug/l	SW846 8260B
Xylene (total)	36.3	1.0	0.58	ug/l	SW846 8260B
3&4-Methylphenol	5.6 J	11	0.82	ug/l	SW846 8270C
Butyl benzyl phthalate	1.6 J	5.4	0.29	ug/l	SW846 8270C
Di-n-butyl phthalate	4.9 J	5.4	0.39	ug/l	SW846 8270C
Diethyl phthalate	3.3 J	5.4	0.21	ug/l	SW846 8270C
1-Methylnaphthalene	0.31	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	0.35	0.22	0.056	ug/l	SW846 8270C BY SIM
Naphthalene	0.38	0.11	0.039	ug/l	SW846 8270C BY SIM

**MC12942-2 MW8-ROX-080712**

Acetone <sup>a</sup>	378	100	60	ug/l	SW846 8260B
Benzene <sup>b</sup>	397000	500	240	ug/l	SW846 8260B
Ethylbenzene	249	20	10	ug/l	SW846 8260B
Methyl Tert Butyl Ether	878	20	8.2	ug/l	SW846 8260B
n-Propylbenzene	19.1 J	100	12	ug/l	SW846 8260B
Toluene	781	20	10	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	104	100	6.9	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	29.9 J	100	9.3	ug/l	SW846 8260B
m,p-Xylene	623	20	15	ug/l	SW846 8260B
o-Xylene	246	20	12	ug/l	SW846 8260B
Xylene (total)	868	20	12	ug/l	SW846 8260B
2,4-Dimethylphenol	15.0	11	3.0	ug/l	SW846 8270C
2-Methylphenol	7.5 J	11	0.66	ug/l	SW846 8270C
3&4-Methylphenol	23.1	11	0.82	ug/l	SW846 8270C
Phenol	136	5.4	1.0	ug/l	SW846 8270C
Dibenzofuran	0.35 J	2.2	0.23	ug/l	SW846 8270C
Diethyl phthalate	1.6 J	5.4	0.21	ug/l	SW846 8270C
bis(2-Ethylhexyl)phtthalate	0.51 J	2.2	0.41	ug/l	SW846 8270C
Acenaphthene	0.23	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene	0.13	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene	0.055 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene	0.27	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	8.9	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	10.8	0.22	0.056	ug/l	SW846 8270C BY SIM

# Summary of Hits

**Job Number:** MC12942  
**Account:** Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Collected:** 08/07/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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Naphthalene		16.4	0.11	0.039	ug/l	SW846 8270C BY SIM
Phenanthrene		0.15	0.054	0.014	ug/l	SW846 8270C BY SIM

**MC12942-3      MW8-ROX-080712-DUP**

Acetone <sup>a</sup>		235	50	30	ug/l	SW846 8260B
Benzene <sup>b</sup>		653000	2500	1200	ug/l	SW846 8260B
Ethylbenzene		232	10	5.1	ug/l	SW846 8260B
Methyl Tert Butyl Ether		885	10	4.1	ug/l	SW846 8260B
n-Propylbenzene		17.6 J	50	5.8	ug/l	SW846 8260B
Toluene		729	10	5.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		92.1	50	3.5	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		26.5 J	50	4.7	ug/l	SW846 8260B
m,p-Xylene		598	10	7.3	ug/l	SW846 8260B
o-Xylene		235	10	5.8	ug/l	SW846 8260B
Xylene (total)		833	10	5.8	ug/l	SW846 8260B
2,4-Dimethylphenol		15.8	11	3.1	ug/l	SW846 8270C
2-Methylphenol		8.1 J	11	0.68	ug/l	SW846 8270C
3&4-Methylphenol		24.0	11	0.85	ug/l	SW846 8270C
Phenol		134	5.6	1.0	ug/l	SW846 8270C
Dibenzofuran		0.40 J	2.2	0.24	ug/l	SW846 8270C
Diethyl phthalate		1.8 J	5.6	0.21	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.43 J	2.2	0.42	ug/l	SW846 8270C
Acenaphthene		0.20	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.29	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.071 J	0.11	0.020	ug/l	SW846 8270C BY SIM
Fluorene		0.26	0.11	0.052	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		8.7	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		10.4	0.22	0.058	ug/l	SW846 8270C BY SIM
Naphthalene		16.4	0.11	0.040	ug/l	SW846 8270C BY SIM
Phenanthrene		0.14	0.056	0.014	ug/l	SW846 8270C BY SIM

**MC12942-4      TB-080712-HCL**

Benzene		3840	5.0	2.4	ug/l	SW846 8260B
Toluene		5.6 J	10	5.1	ug/l	SW846 8260B

**MC12942-5      TB-080712-ST**

No hits reported in this sample.

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

<b>Client Sample ID:</b>	ROST3PZ-ROX-080712	
<b>Lab Sample ID:</b>	MC12942-1	<b>Date Sampled:</b> 08/07/12
<b>Matrix:</b>	AQ - Ground Water	<b>Date Received:</b> 08/08/12
<b>Method:</b>	SW846 8260B	<b>Percent Solids:</b> n/a
<b>Project:</b>	URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66865.D	1	08/21/12	JM	n/a	n/a	MSN2515
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	4.1	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	0.72	5.0	0.64	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	ROST3PZ-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-1	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	4.7	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	1.5	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	4.2	5.0	0.35	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	1.2	5.0	0.47	ug/l	J
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	28.9	1.0	0.73	ug/l	
95-47-6	o-Xylene	7.4	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	36.3	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> ROST3PZ-ROX-080712		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-1		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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4

**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	ROST3PZ-ROX-080712		<b>Date Sampled:</b>	08/07/12
<b>Lab Sample ID:</b>	MC12942-1		<b>Date Received:</b>	08/08/12
<b>Matrix:</b>	AQ - Ground Water		<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3510C			
<b>Project:</b>	URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3879.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.44	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.41	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.41	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.4	ug/l	
95-48-7	2-Methylphenol	ND	11	0.66	ug/l	
	3&4-Methylphenol	5.6	11	0.82	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.69	ug/l	
108-95-2	Phenol	ND	5.4	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	1.6	5.4	0.29	ug/l	J
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.69	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.41	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.23	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.97	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	4.9	5.4	0.39	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.4	0.26	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> ROST3PZ-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	3.3	5.4	0.21	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.4	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.41	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		15-110%
4165-62-2	Phenol-d5	21%		15-110%
118-79-6	2,4,6-Tribromophenol	54%		15-110%
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	48%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> ROST3PZ-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9182.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	0.31	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.35	0.22	0.056	ug/l	
91-20-3	Naphthalene	0.38	0.11	0.039	ug/l	
85-01-8	Phenanthrene	ND	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	47%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> ROST3PZ-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-1	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15955.D	1	08/10/12	AP	08/09/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.8 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	131%		36-173%
460-00-4	Bromofluorobenzene (S)	118%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	MW8-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-2	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66805.D	20	08/18/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66849.D	1000	08/20/12	AMY	n/a	n/a	MSN2514

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>b</sup>	378	100	60	ug/l	
107-02-8	Acrolein <sup>c</sup>	ND	500	200	ug/l	
107-13-1	Acrylonitrile	ND	100	65	ug/l	
71-43-2	Benzene	397000 <sup>d</sup>	500	240	ug/l	
108-86-1	Bromobenzene	ND	100	12	ug/l	
74-97-5	Bromochloromethane	ND	100	24	ug/l	
75-27-4	Bromodichloromethane	ND	20	12	ug/l	
75-25-2	Bromoform	ND	20	16	ug/l	
74-83-9	Bromomethane	ND	40	20	ug/l	
78-93-3	2-Butanone (MEK)	ND	100	48	ug/l	
104-51-8	n-Butylbenzene	ND	100	14	ug/l	
135-98-8	sec-Butylbenzene	ND	100	11	ug/l	
98-06-6	tert-Butylbenzene	ND	100	13	ug/l	
75-15-0	Carbon disulfide	ND	100	12	ug/l	
56-23-5	Carbon tetrachloride	ND	20	17	ug/l	
108-90-7	Chlorobenzene	ND	20	9.4	ug/l	
75-00-3	Chloroethane	ND	40	10	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	100	16	ug/l	
67-66-3	Chloroform	ND	20	9.9	ug/l	
74-87-3	Chloromethane	ND	40	15	ug/l	
95-49-8	o-Chlorotoluene	ND	100	13	ug/l	
106-43-4	p-Chlorotoluene	ND	100	9.7	ug/l	
124-48-1	Dibromochloromethane	ND	20	11	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	19	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	9.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	40	35	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	12	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	13	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	8.2	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	13	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	19	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW8-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-2	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	40	14	ug/l	
142-28-9	1,3-Dichloropropane	ND	100	13	ug/l	
594-20-7	2,2-Dichloropropane	ND	100	31	ug/l	
563-58-6	1,1-Dichloropropene	ND	100	18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	9.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.9	ug/l	
123-91-1	1,4-Dioxane	ND	500	300	ug/l	
97-63-2	Ethyl methacrylate	ND	100	16	ug/l	
100-41-4	Ethylbenzene	249	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	100	41	ug/l	
591-78-6	2-Hexanone	ND	100	39	ug/l	
98-82-8	Isopropylbenzene	ND	100	10	ug/l	
99-87-6	p-Isopropyltoluene	ND	100	11	ug/l	
1634-04-4	Methyl Tert Butyl Ether	878	20	8.2	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	100	58	ug/l	
74-95-3	Methylene bromide	ND	100	22	ug/l	
75-09-2	Methylene chloride	ND	40	17	ug/l	
103-65-1	n-Propylbenzene	19.1	100	12	ug/l	J
100-42-5	Styrene	ND	100	9.1	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	100	11	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	12	ug/l	
127-18-4	Tetrachloroethene	ND	20	8.4	ug/l	
108-88-3	Toluene	781	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	100	21	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	100	26	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	16	ug/l	
75-69-4	Trichlorofluoromethane	ND	20	5.7	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	100	17	ug/l	
95-63-6	1,2,4-Trimethylbenzene	104	100	6.9	ug/l	
108-67-8	1,3,5-Trimethylbenzene	29.9	100	9.3	ug/l	J
108-05-4	Vinyl Acetate	ND	100	20	ug/l	
75-01-4	Vinyl chloride	ND	20	13	ug/l	
	m,p-Xylene	623	20	15	ug/l	
95-47-6	o-Xylene	246	20	12	ug/l	
1330-20-7	Xylene (total)	868	20	12	ug/l	

ND = Not detected MDL = Method Detection Limit

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E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-2		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	79%	95%	70-130%
2037-26-5	Toluene-D8	94%	96%	70-130%
460-00-4	4-Bromofluorobenzene	94%	100%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (c) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (d) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW8-ROX-080712	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-2	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3880.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.44	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.41	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.41	ug/l	
105-67-9	2,4-Dimethylphenol	15.0	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.4	ug/l	
95-48-7	2-Methylphenol	7.5	11	0.66	ug/l	J
	3&4-Methylphenol	23.1	11	0.82	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.69	ug/l	
108-95-2	Phenol	136	5.4	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.69	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.41	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.23	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.97	ug/l	
132-64-9	Dibenzofuran	0.35	2.2	0.23	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.26	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-2		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	1.6	5.4	0.21	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.4	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.51	2.2	0.41	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	43%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-2	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9183.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
Run #2							

Run #	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.23	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.13	0.11	0.014	ug/l	
120-12-7	Anthracene	0.055	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.27	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	8.9	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	10.8	0.22	0.056	ug/l	
91-20-3	Naphthalene	16.4	0.11	0.039	ug/l	
85-01-8	Phenanthrene	0.15	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	42%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-2	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15956.D	1	08/10/12	AP	08/09/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	91%		36-173%
460-00-4	Bromofluorobenzene (S)	113%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

Client Sample ID:	MW8-ROX-080712-DUP	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-3	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66806.D	10	08/18/12	JP	n/a	n/a	MSN2512
Run #2 <sup>a</sup>	N66857.D	5000	08/20/12	AMY	n/a	n/a	MSN2514

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>b</sup>	235	50	30	ug/l	
107-02-8	Acrolein <sup>c</sup>	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	653000 <sup>d</sup>	2500	1200	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	MW8-ROX-080712-DUP	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-3	Date Received:	08/08/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	232	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	ND	50	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	885	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	17.6	50	5.8	ug/l	J
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	729	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	92.1	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	26.5	50	4.7	ug/l	J
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	598	10	7.3	ug/l	
95-47-6	o-Xylene	235	10	5.8	ug/l	
1330-20-7	Xylene (total)	833	10	5.8	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712-DUP		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-3		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	75%	90%	70-130%
2037-26-5	Toluene-D8	92%	94%	70-130%
460-00-4	4-Bromofluorobenzene	91%	96%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- (b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (c) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- (d) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712-DUP	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-3	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3881.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.6	0.45	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.42	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.42	ug/l	
105-67-9	2,4-Dimethylphenol	15.8	11	3.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.6	ug/l	
95-48-7	2-Methylphenol	8.1	11	0.68	ug/l	J
	3&4-Methylphenol	24.0	11	0.85	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.1	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.72	ug/l	
108-95-2	Phenol	134	5.6	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.55	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.40	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.37	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.30	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.29	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	0.20	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.71	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.32	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.33	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.23	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	1.0	ug/l	
132-64-9	Dibenzofuran	0.40	2.2	0.24	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.6	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.27	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712-DUP		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-3		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	1.8	5.6	0.21	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.6	5.6	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.43	2.2	0.42	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.6	0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.6	ug/l	
67-72-1	Hexachloroethane	ND	5.6	2.2	ug/l	
78-59-1	Isophorone	ND	5.6	0.36	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.67	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.31	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.49	ug/l	
110-86-1	Pyridine	ND	11	5.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	46%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.3  
4

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712-DUP	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-3	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9184.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
Run #2							

Run #	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.20	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.29	0.11	0.015	ug/l	
120-12-7	Anthracene	0.071	0.11	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.056	0.034	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.066	ug/l	
218-01-9	Chrysene	ND	0.11	0.082	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.047	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.037	ug/l	
86-73-7	Fluorene	0.26	0.11	0.052	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.052	ug/l	
90-12-0	1-Methylnaphthalene	8.7	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	10.4	0.22	0.058	ug/l	
91-20-3	Naphthalene	16.4	0.11	0.040	ug/l	
85-01-8	Phenanthrene	0.14	0.056	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.040	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	44%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.3  
4

## Report of Analysis

<b>Client Sample ID:</b> MW8-ROX-080712-DUP	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-3	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15957.D	1	08/10/12	AP	08/09/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	35.2 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	100%		36-173%
460-00-4	Bromofluorobenzene (S)	138%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.3  
4

## Report of Analysis

Client Sample ID:	TB-080712-HCL	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-4	Date Received:	08/08/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N66807.D	10	08/18/12	JP	n/a	n/a	MSN2512
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	30	ug/l	
107-02-8	Acrolein <sup>a</sup>	ND	250	100	ug/l	
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	3840	5.0	2.4	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	12	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.8	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	7.8	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080712-HCL	Date Sampled:	08/07/12
Lab Sample ID:	MC12942-4	Date Received:	08/08/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	ND	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	ND	50	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
103-65-1	n-Propylbenzene	ND	50	5.8	ug/l	
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	5.6	10	5.1	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	50	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	50	4.7	ug/l	
108-05-4	Vinyl Acetate	ND	50	10	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	ND	10	7.3	ug/l	
95-47-6	o-Xylene	ND	10	5.8	ug/l	
1330-20-7	Xylene (total)	ND	10	5.8	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080712-HCL		<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-4		<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

4.4  
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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	95%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080712-ST	<b>Date Sampled:</b> 08/07/12
<b>Lab Sample ID:</b> MC12942-5	<b>Date Received:</b> 08/08/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK15958.D	1	08/10/12	AP	08/09/12	OP29955	GBK604
Run #2							

	Initial Volume	Final Volume
Run #1	34.7 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		36-173%
460-00-4	Bromofluorobenzene (S)	108%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.5  
4



**Misc. Forms****Custody Documents and Other Forms**

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



# Shell Oil Products Chain Of Custody Record



LAB (LOCATION)  
 XENCO  
 CALSCE  
 OTHER (Marlborough, MA 01752 (508-481-8200))  
 SPL  
 Lab Vendor # \_\_\_\_\_  
 Lab Vendor # \_\_\_\_\_

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SDS/CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Erik Arthur  
 INCIDENT # (ENV SERVICES) 9 7 2 1 8 6 4 0  
 DATE: 8/7/12  
 PO # \_\_\_\_\_ SAP # \_\_\_\_\_  
 STATE: IL GLOBAL ID NO: 3 4 0 0 6 1  
 CHECK IF NO INCIDENT # APPLIES  
 DATE: 8/7/12  
 PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION  
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110  
 PROJECT CONTACT (Name only or PDP Report to): Erik Arthur  
 TEL: 314-265-1553 FAX: 314-429-0462  
 E-MAIL: erik.arthur@urs.com

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA  
 STATE: IL  
 CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00008  
 SAMPLER NAME: D. Mattingly, N. McNurten  
 LAB USE ONLY: MC12942

TURNAROUND TIME (CALENDAR DAYS)  
 STANDARD (10 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  
 LA - RWQCB REPORT FORMAT  UST AGENCY:  
 RESULTS NEEDED ON WEEKEND

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) EDD  
 TEMPERATURE ON RECEIPT °C: Cooler #1 \_\_\_\_\_ Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES:  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS				PID (ppm)	FIELD NOTES: TEMPERATURE ON RECEIPT °C Container PID Readings or Laboratory Notes
		DATE	TIME		HCL	HN03	K2SO4	NONE	OTHER		VOC 8011	SVOC 8270C SL+TICS	PAH 8270LL			
	-1 ROST3PZ-ROX-080712	8/7/12	16:30	Water	2			2	2	6	X	X	X	X	0	
	-2 MW8-ROX-080712		12:55		2			2	2	6	X	X	X	X		
	-3 MW8-ROX-080712 DUP		12:55	↓	2			2	2	6	X	X	X	X		
	-4 TB-080712-HCI		00:00	↓	2					2	X					
	-5 TB-080712-ST		00:00	↓				2	2		X					16CC, 4K2
	<i>Oil</i>															

Requested by (Signature): <i>[Signature]</i>	Received by (Signature): _____	Date: 8/7/12	Time: 1700
Requested by (Signature): Fedex	Received by (Signature): <i>[Signature]</i>	Date: 8-8-12	Time: 9:15
Requested by (Signature): _____	Received by (Signature): _____	Date: _____	Time: _____

2.9, 3.7

5.1  
5

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC12942      **Client:** URS      **Immediate Client Services Action Required:** No  
**Date / Time Received:** 8/8/2012      **Delivery Method:** \_\_\_\_\_      **Client Service Action Required at Login:** No  
**Project:** 900 SO CENTRAL AVE      **No. Coolers:** 2      **Airbill #'s:** \_\_\_\_\_

<u>Cooler Security</u>		<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Cooler Temperature</u>		<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Cooler temp verification:	Infrared gun		
3. Cooler media:	Ice (bag)		

<u>Quality Control Preservation</u>			
	<u>Y</u>	<u>or</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>		<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<u>Sample Integrity - Condition</u>		<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>			
	<u>Y</u>	<u>or</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

5.1  
5

## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC12942

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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MC12942-1 Collected: 07-AUG-12 10:30 By: DMNM Received: 08-AUG-12 By: ROST3PZ-ROX-080712

MC12942-1 SW846 8011	10-AUG-12 15:37	AP	09-AUG-12	SC	V8011SL
MC12942-1 SW846 8270C	13-AUG-12 13:51	KR	09-AUG-12	MEW	AB8270SL +
MC12942-1 SW846 8270C BY SIM	13-AUG-12 18:02	NS	09-AUG-12	MT	B8270SIMP AH
MC12942-1 SW846 8260B	21-AUG-12 13:36	JM			V8260SL +

MC12942-2 Collected: 07-AUG-12 12:55 By: DMNM Received: 08-AUG-12 By: MW8-ROX-080712

MC12942-2 SW846 8011	10-AUG-12 16:01	AP	09-AUG-12	SC	V8011SL
MC12942-2 SW846 8270C	13-AUG-12 14:14	KR	09-AUG-12	MEW	AB8270SL +
MC12942-2 SW846 8270C BY SIM	13-AUG-12 18:25	NS	09-AUG-12	MT	B8270SIMP AH
MC12942-2 SW846 8260B	18-AUG-12 00:51	JP			V8260SL +
MC12942-2 SW846 8260B	20-AUG-12 15:28	AMY			V8260SL +

MC12942-3 Collected: 07-AUG-12 12:55 By: DMNM Received: 08-AUG-12 By: MW8-ROX-080712-DUP

MC12942-3 SW846 8011	10-AUG-12 16:25	AP	09-AUG-12	SC	V8011SL
MC12942-3 SW846 8270C	13-AUG-12 14:36	KR	09-AUG-12	MEW	AB8270SL +
MC12942-3 SW846 8270C BY SIM	13-AUG-12 18:48	NS	09-AUG-12	MT	B8270SIMP AH
MC12942-3 SW846 8260B	18-AUG-12 01:19	JP			V8260SL +
MC12942-3 SW846 8260B	20-AUG-12 19:14	AMY			V8260SL +

MC12942-4 Collected: 07-AUG-12 00:00 By: DMNM Received: 08-AUG-12 By: TB-080712-HCL

MC12942-4 SW846 8260B	18-AUG-12 01:47	JP			V8260SL +
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MC12942-5 Collected: 07-AUG-12 00:00 By: DMNM Received: 08-AUG-12 By: TB-080712-ST

MC12942-5 SW846 8011	10-AUG-12 16:49	AP	09-AUG-12	SC	V8011SL
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# SGS Accutest Internal Chain of Custody

**Job Number:** MC12942  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/08/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12942-1.2	Walk In Ref #22	Nick Krasinski	08/09/12 16:11	Retrieve from Storage
MC12942-1.2	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-1.4	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12942-1.4	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-1.5	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12942-1.5	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12942-1.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-1.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-1.5	Scott Parsick		10/23/12 13:15	Disposed
MC12942-1.6	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12942-1.6	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12942-1.6	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12942-1.6	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12942-1.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-1.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-1.6	VOC Ref #4	Dana Tyron	08/21/12 11:24	Retrieve from Storage
MC12942-1.6	Dana Tyron	GCMSN	08/21/12 11:24	Load on Instrument
MC12942-1.6	GCMSN	Jaime Maslowski	08/22/12 11:45	Unload from Instrument
MC12942-1.6	Jaime Maslowski	VOC Ref #4	08/22/12 16:12	Return to Storage
MC12942-1.6	Scott Parsick		10/23/12 13:15	Disposed
MC12942-2.1	Walk In Ref #22	Nick Krasinski	08/09/12 16:11	Retrieve from Storage
MC12942-2.1	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-2.3	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12942-2.3	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-2.5	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12942-2.5	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12942-2.5	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12942-2.5	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12942-2.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-2.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-2.5	Scott Parsick		10/23/12 13:15	Disposed
MC12942-2.6	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12942-2.6	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12942-2.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-2.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-2.6	Scott Parsick		10/23/12 13:15	Disposed

# SGS Accutest Internal Chain of Custody

**Job Number:** MC12942  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/08/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC12942-3.1	Walk In Ref #22	Nick Krasinski	08/09/12 16:11	Retrieve from Storage
MC12942-3.1	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-3.4	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12942-3.4	Nick Krasinski		08/09/12 21:58	Depleted
MC12942-3.5	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12942-3.5	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12942-3.5	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-3.5	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-3.5	Scott Parsick		10/23/12 13:15	Disposed
MC12942-3.6	VOC Ref #4	Amy Min Yang	08/20/12 11:30	Retrieve from Storage
MC12942-3.6	Amy Min Yang	GCMSV	08/20/12 11:30	Load on Instrument
MC12942-3.6	GCMSV	Amy Min Yang	08/20/12 11:31	Unload from Instrument
MC12942-3.6	Amy Min Yang	GCMSN	08/20/12 11:31	Load on Instrument
MC12942-3.6	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-3.6	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-3.6	Scott Parsick		10/23/12 13:15	Disposed
MC12942-4.2	VOC Ref #4	Dana Tyron	08/17/12 14:36	Retrieve from Storage
MC12942-4.2	Dana Tyron	GCMSN	08/17/12 14:36	Load on Instrument
MC12942-4.2	GCMSN	Dana Tyron	08/21/12 10:12	Unload from Instrument
MC12942-4.2	Dana Tyron	VOC Ref #4	08/21/12 10:12	Return to Storage
MC12942-4.2	Scott Parsick		10/23/12 13:15	Disposed
MC12942-5.1	VOC Ref #4	Nick Krasinski	08/09/12 14:30	Retrieve from Storage
MC12942-5.1	Nick Krasinski		08/09/12 21:58	Depleted

5.3  
5

**GC/MS Volatiles**

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**QC Data Summaries**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	



# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-MB	N66786.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	85%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-MB	N66838.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

6.1.2  
6

# Method Blank Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-MB	N66864.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-MB	N66864.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-MB	N66864.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	89%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	46.7	93	50.9	102	9	70-130/25
107-02-8	Acrolein	250	370	148* a	410	164* a	10	70-130/25
107-13-1	Acrylonitrile	50	223	446* b	221	442* b	1	70-130/25
71-43-2	Benzene	50	46.9	94	47.5	95	1	70-130/25
108-86-1	Bromobenzene	50	49.0	98	54.0	108	10	70-130/25
74-97-5	Bromochloromethane	50	47.3	95	46.9	94	1	70-130/25
75-27-4	Bromodichloromethane	50	47.2	94	46.7	93	1	70-130/25
75-25-2	Bromoform	50	53.8	108	53.1	106	1	70-130/25
74-83-9	Bromomethane	50	56.7	113	63.5	127	11	70-130/25
78-93-3	2-Butanone (MEK)	50	44.3	89	43.3	87	2	70-130/25
104-51-8	n-Butylbenzene	50	47.1	94	48.8	98	4	70-130/25
135-98-8	sec-Butylbenzene	50	53.5	107	55.4	111	3	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	53.6	107	6	70-130/25
75-15-0	Carbon disulfide	50	42.5	85	46.3	93	9	70-130/25
56-23-5	Carbon tetrachloride	50	51.1	102	48.9	98	4	70-130/25
108-90-7	Chlorobenzene	50	56.0	112	56.9	114	2	70-130/25
75-00-3	Chloroethane	50	42.2	84	49.1	98	15	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	47.0	94	48.0	96	2	70-130/25
67-66-3	Chloroform	50	41.4	83	42.3	85	2	70-130/25
74-87-3	Chloromethane	50	57.7	115	62.0	124	7	70-130/25
95-49-8	o-Chlorotoluene	50	48.2	96	52.2	104	8	70-130/25
106-43-4	p-Chlorotoluene	50	49.4	99	54.8	110	10	70-130/25
124-48-1	Dibromochloromethane	50	56.4	113	56.9	114	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	51.4	103	51.8	104	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	51.4	103	53.6	107	4	70-130/25
106-46-7	1,4-Dichlorobenzene	50	49.7	99	51.7	103	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	58.9	118	65.7	131* a	11	70-130/25
75-34-3	1,1-Dichloroethane	50	44.2	88	43.4	87	2	70-130/25
107-06-2	1,2-Dichloroethane	50	44.8	90	42.8	86	5	70-130/25
75-35-4	1,1-Dichloroethene	50	46.0	92	50.9	102	10	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	46.1	92	46.5	93	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	46.3	93	45.8	92	1	70-130/25
78-87-5	1,2-Dichloropropane	50	46.7	93	47.7	95	2	70-130/25
142-28-9	1,3-Dichloropropane	50	47.3	95	48.9	98	3	70-130/25
594-20-7	2,2-Dichloropropane	50	45.2	90	45.6	91	1	70-130/25
563-58-6	1,1-Dichloropropene	50	47.9	96	46.6	93	3	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	54.2	108	50.2	100	8	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	51.6	103	48.3	97	7	70-130/25
123-91-1	1,4-Dioxane	250	285	114	241	96	17	70-130/25
97-63-2	Ethyl methacrylate	50	55.4	111	50.7	101	9	77-137/25
100-41-4	Ethylbenzene	50	49.3	99	51.3	103	4	70-130/25
87-68-3	Hexachlorobutadiene	50	50.6	101	55.9	112	10	70-130/25
591-78-6	2-Hexanone	50	52.9	106	51.0	102	4	70-130/25
98-82-8	Isopropylbenzene	50	52.2	104	56.0	112	7	70-130/25
99-87-6	p-Isopropyltoluene	50	54.5	109	56.5	113	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	47.0	94	46.5	93	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.1	104	46.1	92	12	70-130/25
74-95-3	Methylene bromide	50	50.2	100	49.6	99	1	70-130/25
75-09-2	Methylene chloride	50	42.4	85	46.7	93	10	70-130/25
103-65-1	n-Propylbenzene	50	51.2	102	56.2	112	9	70-130/25
100-42-5	Styrene	50	55.6	111	57.2	114	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.3	107	53.7	107	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.7	97	49.5	99	2	70-130/25
127-18-4	Tetrachloroethene	50	54.2	108	56.6	113	4	70-130/25
108-88-3	Toluene	50	52.4	105	50.1	100	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	48.1	96	52.3	105	8	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	48.5	97	52.4	105	8	70-130/25
71-55-6	1,1,1-Trichloroethane	50	41.0	82	45.0	90	9	70-130/25
79-00-5	1,1,2-Trichloroethane	50	47.9	96	45.1	90	6	70-130/25
79-01-6	Trichloroethene	50	45.8	92	46.7	93	2	70-130/25
75-69-4	Trichlorofluoromethane	50	36.8	74	41.6	83	12	70-130/25
96-18-4	1,2,3-Trichloropropane	50	48.3	97	48.0	96	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	52.7	105	6	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.0	96	51.8	104	8	70-130/25
108-05-4	Vinyl Acetate	50	55.2	110	55.8	112	1	70-130/25
75-01-4	Vinyl chloride	50	47.3	95	51.8	104	9	70-130/25
	m,p-Xylene	100	109	109	111	111	2	70-130/25
95-47-6	o-Xylene	50	57.5	115	59.6	119	4	70-130/25
1330-20-7	Xylene (total)	150	166	111	171	114	3	70-130/25

\* = Outside of Control Limits.



# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2512-BS	N66783.D	1	08/17/12	JP	n/a	n/a	MSN2512
MSN2512-BSD	N66784.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	82%	83%	70-130%
2037-26-5	Toluene-D8	102%	97%	70-130%
460-00-4	4-Bromofluorobenzene	87%	96%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2514-BS	N66835.D	1	08/20/12	AMY	n/a	n/a	MSN2514
MSN2514-BSD	N66836.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	47.4	95	42.2	84	12	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	91%	90%	70-130%
2037-26-5	Toluene-D8	98%	97%	70-130%
460-00-4	4-Bromofluorobenzene	93%	96%	70-130%

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-BS	N66861.D	1	08/21/12	JM	n/a	n/a	MSN2515
MSN2515-BSD	N66862.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	45.9	92	45.5	91	1	70-130/25
107-02-8	Acrolein	250	429	172* a	417	167* a	3	70-130/25
107-13-1	Acrylonitrile	50	257	514* b	242	484* b	6	70-130/25
71-43-2	Benzene	50	48.3	97	48.2	96	0	70-130/25
108-86-1	Bromobenzene	50	51.2	102	52.0	104	2	70-130/25
74-97-5	Bromochloromethane	50	46.9	94	48.4	97	3	70-130/25
75-27-4	Bromodichloromethane	50	47.1	94	46.5	93	1	70-130/25
75-25-2	Bromoform	50	53.3	107	57.5	115	8	70-130/25
74-83-9	Bromomethane	50	48.8	98	49.5	99	1	70-130/25
78-93-3	2-Butanone (MEK)	50	52.8	106	53.8	108	2	70-130/25
104-51-8	n-Butylbenzene	50	53.2	106	52.4	105	2	70-130/25
135-98-8	sec-Butylbenzene	50	56.8	114	57.1	114	1	70-130/25
98-06-6	tert-Butylbenzene	50	51.1	102	51.2	102	0	70-130/25
75-15-0	Carbon disulfide	50	41.0	82	40.3	81	2	70-130/25
56-23-5	Carbon tetrachloride	50	45.1	90	45.7	91	1	70-130/25
108-90-7	Chlorobenzene	50	56.2	112	59.5	119	6	70-130/25
75-00-3	Chloroethane	50	41.8	84	40.5	81	3	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	50.6	101	50.1	100	1	70-130/25
67-66-3	Chloroform	50	43.2	86	43.8	88	1	70-130/25
74-87-3	Chloromethane	50	35.8	72	36.6	73	2	70-130/25
95-49-8	o-Chlorotoluene	50	50.2	100	50.4	101	0	70-130/25
106-43-4	p-Chlorotoluene	50	50.9	102	52.2	104	3	70-130/25
124-48-1	Dibromochloromethane	50	55.4	111	58.9	118	6	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.8	110	55.8	112	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.8	110	55.7	111	2	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.0	102	51.2	102	0	70-130/25
75-71-8	Dichlorodifluoromethane	50	33.4	67* a	32.4	65* a	3	70-130/25
75-34-3	1,1-Dichloroethane	50	44.4	89	44.9	90	1	70-130/25
107-06-2	1,2-Dichloroethane	50	40.5	81	40.5	81	0	70-130/25
75-35-4	1,1-Dichloroethene	50	44.8	90	45.2	90	1	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	49.3	99	49.4	99	0	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	46.4	93	45.8	92	1	70-130/25
78-87-5	1,2-Dichloropropane	50	50.2	100	49.8	100	1	70-130/25
142-28-9	1,3-Dichloropropane	50	49.8	100	52.5	105	5	70-130/25
594-20-7	2,2-Dichloropropane	50	41.9	84	42.3	85	1	70-130/25
563-58-6	1,1-Dichloropropene	50	44.6	89	45.2	90	1	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-BS	N66861.D	1	08/21/12	JM	n/a	n/a	MSN2515
MSN2515-BSD	N66862.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.3	105	52.0	104	1	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	47.4	95	47.6	95	0	70-130/25
123-91-1	1,4-Dioxane	250	278	111	264	106	5	70-130/25
97-63-2	Ethyl methacrylate	50	53.6	107	53.6	107	0	77-137/25
100-41-4	Ethylbenzene	50	49.8	100	52.7	105	6	70-130/25
87-68-3	Hexachlorobutadiene	50	52.9	106	55.3	111	4	70-130/25
591-78-6	2-Hexanone	50	52.1	104	54.5	109	5	70-130/25
98-82-8	Isopropylbenzene	50	53.5	107	54.3	109	1	70-130/25
99-87-6	p-Isopropyltoluene	50	53.8	108	54.1	108	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	45.3	91	45.6	91	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.0	102	51.6	103	1	70-130/25
74-95-3	Methylene bromide	50	51.1	102	49.9	100	2	70-130/25
75-09-2	Methylene chloride	50	44.6	89	44.8	90	0	70-130/25
103-65-1	n-Propylbenzene	50	55.6	111	55.6	111	0	70-130/25
100-42-5	Styrene	50	57.0	114	58.5	117	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.1	104	55.3	111	6	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	56.3	113	55.6	111	1	70-130/25
127-18-4	Tetrachloroethene	50	54.4	109	57.8	116	6	70-130/25
108-88-3	Toluene	50	50.5	101	49.9	100	1	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	52.7	105	53.2	106	1	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	51.8	104	52.3	105	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	40.9	82	41.3	83	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.6	101	48.9	98	3	70-130/25
79-01-6	Trichloroethene	50	46.6	93	46.3	93	1	70-130/25
75-69-4	Trichlorofluoromethane	50	31.7	63* a	32.4	65* a	2	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.1	102	51.4	103	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	48.8	98	49.6	99	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	47.2	94	48.2	96	2	70-130/25
108-05-4	Vinyl Acetate	50	56.1	112	58.1	116	4	70-130/25
75-01-4	Vinyl chloride	50	30.8	62* a	30.9	62* a	0	70-130/25
	m,p-Xylene	100	110	110	114	114	4	70-130/25
95-47-6	o-Xylene	50	58.7	117	59.4	119	1	70-130/25
1330-20-7	Xylene (total)	150	169	113	173	115	2	70-130/25

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2515-BS	N66861.D	1	08/21/12	JM	n/a	n/a	MSN2515
MSN2515-BSD	N66862.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	87%	87%	70-130%
2037-26-5	Toluene-D8	95%	95%	70-130%
460-00-4	4-Bromofluorobenzene	89%	89%	70-130%

- (a) Outside control limits. Blank Spike meets program technical requirements.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	MC12870-4 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	500	777	155* a	500	815	163* a	5	70-130/30
107-02-8	Acrolein	ND	2500	3920	157* a	2500	3950	158* a	1	70-130/30
107-13-1	Acrylonitrile	ND	500	2310	462* b	500	2160	432* b	7	70-130/30
71-43-2	Benzene	13.1	500	478	93	500	477	93	0	70-130/30
108-86-1	Bromobenzene	ND	500	486	97	500	493	99	1	70-130/30
74-97-5	Bromochloromethane	ND	500	464	93	500	465	93	0	70-130/30
75-27-4	Bromodichloromethane	ND	500	438	88	500	445	89	2	70-130/30
75-25-2	Bromoform	ND	500	498	100	500	503	101	1	70-130/30
74-83-9	Bromomethane	ND	500	541	108	500	567	113	5	70-130/30
78-93-3	2-Butanone (MEK)	ND	500	433	87	500	456	91	5	70-130/30
104-51-8	n-Butylbenzene	1.5	J 500	474	95	500	494	99	4	70-130/30
135-98-8	sec-Butylbenzene	2.7	J 500	533	106	500	551	110	3	70-130/30
98-06-6	tert-Butylbenzene	ND	500	499	100	500	507	101	2	70-130/30
75-15-0	Carbon disulfide	ND	500	434	87	500	435	87	0	70-130/30
56-23-5	Carbon tetrachloride	ND	500	483	97	500	470	94	3	70-130/30
108-90-7	Chlorobenzene	ND	500	557	111	500	554	111	1	70-130/30
75-00-3	Chloroethane	ND	500	444	89	500	435	87	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	500	466	93	500	460	92	1	70-130/30
67-66-3	Chloroform	ND	500	397	79	500	404	81	2	70-130/30
74-87-3	Chloromethane	ND	500	534	107	500	569	114	6	70-130/30
95-49-8	o-Chlorotoluene	ND	500	472	94	500	485	97	3	70-130/30
106-43-4	p-Chlorotoluene	ND	500	483	97	500	503	101	4	70-130/30
124-48-1	Dibromochloromethane	ND	500	543	109	500	544	109	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	500	503	101	500	527	105	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	500	503	101	500	519	104	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	500	482	96	500	495	99	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND	500	634	127	500	615	123	3	70-130/30
75-34-3	1,1-Dichloroethane	ND	500	416	83	500	419	84	1	70-130/30
107-06-2	1,2-Dichloroethane	ND	500	420	84	500	417	83	1	70-130/30
75-35-4	1,1-Dichloroethene	ND	500	471	94	500	467	93	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	500	430	86	500	446	89	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	500	448	90	500	440	88	2	70-130/30
78-87-5	1,2-Dichloropropane	ND	500	463	93	500	457	91	1	70-130/30
142-28-9	1,3-Dichloropropane	ND	500	459	92	500	469	94	2	70-130/30
594-20-7	2,2-Dichloropropane	ND	500	425	85	500	435	87	2	70-130/30
563-58-6	1,1-Dichloropropene	ND	500	457	91	500	460	92	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Compound	MC12870-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		500	99	500	482	96	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		500	91	500	463	93	2	70-130/30
123-91-1	1,4-Dioxane	ND		2500	101	2500	2410	96	4	70-130/30
97-63-2	Ethyl methacrylate	ND		500	98	500	493	99	1	72-139/30
100-41-4	Ethylbenzene	0.65	J	500	100	500	493	98	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		500	102	500	552	110	8	70-130/30
591-78-6	2-Hexanone	ND		500	101	500	523	105	4	70-130/30
98-82-8	Isopropylbenzene	17.3		500	105	500	546	106	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		500	107	500	553	111	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		500	90	500	477	95	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		500	96	500	502	100	5	70-130/30
74-95-3	Methylene bromide	ND		500	93	500	472	94	2	70-130/30
75-09-2	Methylene chloride	ND		500	82	500	414	83	1	70-130/30
103-65-1	n-Propylbenzene	13.7		500	103	500	538	105	1	70-130/30
100-42-5	Styrene	ND		500	110	500	550	110	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		500	106	500	519	104	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	95	500	501	100	6	70-130/30
127-18-4	Tetrachloroethene	ND		500	112	500	536	107	4	70-130/30
108-88-3	Toluene	0.93	J	500	96	500	483	96	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		500	98	500	526	105	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		500	98	500	522	104	7	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		500	82	500	405	81	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		500	88	500	440	88	0	70-130/30
79-01-6	Trichloroethene	ND		500	90	500	446	89	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		500	76	500	371	74	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		500	91	500	482	96	6	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		500	98	500	498	100	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		500	94	500	478	96	2	70-130/30
108-05-4	Vinyl Acetate	ND		500	106	500	572	114	8	70-130/30
75-01-4	Vinyl chloride	ND		500	94	500	467	93	1	70-130/30
	m,p-Xylene	3.3		1000	114	1000	1120	112	2	70-130/30
95-47-6	o-Xylene	0.61	J	500	118	500	577	115	3	70-130/30
1330-20-7	Xylene (total)	3.9		1500	116	1500	1700	113	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12870-4MS	N66792.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4MSD	N66793.D	10	08/17/12	JP	n/a	n/a	MSN2512
MC12870-4	N66791.D	1	08/17/12	JP	n/a	n/a	MSN2512

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-2, MC12942-3, MC12942-4

CAS No.	Surrogate Recoveries	MS	MSD	MC12870-4	Limits
1868-53-7	Dibromofluoromethane	82%	81%	82%	70-130%
2037-26-5	Toluene-D8	97%	94%	96%	70-130%
460-00-4	4-Bromofluorobenzene	89%	92%	89%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC12944-15MS	N66855.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15MSD	N66856.D	5	08/20/12	AMY	n/a	n/a	MSN2514
MC12944-15 <sup>a</sup>	N66847.D	1	08/20/12	AMY	n/a	n/a	MSN2514

The QC reported here applies to the following samples: Method: SW846 8260B

MC12942-2, MC12942-3

CAS No.	Compound	MC12944-15 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q ug/l	ug/l	%	ug/l	ug/l	%		Rec/RPD
71-43-2	Benzene	ND	250	204	82	250	202	81	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC12944-15 Limits	
1868-53-7	Dibromofluoromethane	85%	88%	93%	70-130%
2037-26-5	Toluene-D8	96%	97%	94%	70-130%
460-00-4	4-Bromofluorobenzene	94%	93%	100%	70-130%

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

\* = Outside of Control Limits.

6.3.2  
6

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13142-1MS	N66867.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1MSD	N66868.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1	N66866.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	MC13142-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	250	200	80	250	188	75	6	70-130/30
107-02-8	Acrolein	ND	1250	2040	163* a	1250	1880	150* a	8	70-130/30
107-13-1	Acrylonitrile	ND	250	1160	464* b	250	1160	464* b	0	70-130/30
71-43-2	Benzene	ND	250	216	86	250	217	87	0	70-130/30
108-86-1	Bromobenzene	ND	250	224	90	250	226	90	1	70-130/30
74-97-5	Bromochloromethane	ND	250	230	92	250	226	90	2	70-130/30
75-27-4	Bromodichloromethane	ND	250	210	84	250	206	82	2	70-130/30
75-25-2	Bromoform	ND	250	239	96	250	249	100	4	70-130/30
74-83-9	Bromomethane	ND	250	220	88	250	227	91	3	70-130/30
78-93-3	2-Butanone (MEK)	ND	250	219	88	250	219	88	0	70-130/30
104-51-8	n-Butylbenzene	ND	250	225	90	250	234	94	4	70-130/30
135-98-8	sec-Butylbenzene	ND	250	254	102	250	254	102	0	70-130/30
98-06-6	tert-Butylbenzene	ND	250	226	90	250	223	89	1	70-130/30
75-15-0	Carbon disulfide	ND	250	183	73	250	184	74	1	70-130/30
56-23-5	Carbon tetrachloride	ND	250	187	75	250	190	76	2	70-130/30
108-90-7	Chlorobenzene	ND	250	259	104	250	266	106	3	70-130/30
75-00-3	Chloroethane	ND	250	196	78	250	195	78	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	250	230	92	250	233	93	1	70-130/30
67-66-3	Chloroform	ND	250	199	80	250	198	79	1	70-130/30
74-87-3	Chloromethane	ND	250	160	64* a	250	170	68* a	6	70-130/30
95-49-8	o-Chlorotoluene	ND	250	223	89	250	221	88	1	70-130/30
106-43-4	p-Chlorotoluene	ND	250	226	90	250	229	92	1	70-130/30
124-48-1	Dibromochloromethane	ND	250	254	102	250	257	103	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	250	245	98	250	244	98	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	250	243	97	250	247	99	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	250	227	91	250	228	91	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND	250	126	50* a	250	127	51* a	1	70-130/30
75-34-3	1,1-Dichloroethane	ND	250	206	82	250	207	83	0	70-130/30
107-06-2	1,2-Dichloroethane	ND	250	176	70	250	175	70	1	70-130/30
75-35-4	1,1-Dichloroethene	ND	250	205	82	250	207	83	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	250	222	89	250	226	90	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	250	212	85	250	217	87	2	70-130/30
78-87-5	1,2-Dichloropropane	ND	250	229	92	250	232	93	1	70-130/30
142-28-9	1,3-Dichloropropane	ND	250	232	93	250	232	93	0	70-130/30
594-20-7	2,2-Dichloropropane	ND	250	184	74	250	184	74	0	70-130/30
563-58-6	1,1-Dichloropropene	ND	250	199	80	250	200	80	1	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13142-1MS	N66867.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1MSD	N66868.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1	N66866.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Compound	MC13142-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	250	227	91	250	234	94	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	250	208	83	250	208	83	0	70-130/30
123-91-1	1,4-Dioxane	ND	1250	1210	97	1250	1140	91	6	70-130/30
97-63-2	Ethyl methacrylate	ND	250	233	93	250	229	92	2	72-139/30
100-41-4	Ethylbenzene	ND	250	228	91	250	235	94	3	70-130/30
87-68-3	Hexachlorobutadiene	ND	250	230	92	250	237	95	3	70-130/30
591-78-6	2-Hexanone	ND	250	231	92	250	231	92	0	70-130/30
98-82-8	Isopropylbenzene	ND	250	235	94	250	236	94	0	70-130/30
99-87-6	p-Isopropyltoluene	ND	250	237	95	250	236	94	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND	250	205	82	250	197	79	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	220	88	250	219	88	0	70-130/30
74-95-3	Methylene bromide	ND	250	231	92	250	225	90	3	70-130/30
75-09-2	Methylene chloride	ND	250	209	84	250	209	84	0	70-130/30
103-65-1	n-Propylbenzene	ND	250	246	98	250	249	100	1	70-130/30
100-42-5	Styrene	ND	250	254	102	250	266	106	5	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	240	96	250	245	98	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	253	101	250	246	98	3	70-130/30
127-18-4	Tetrachloroethene	ND	250	247	99	250	251	100	2	70-130/30
108-88-3	Toluene	ND	250	226	90	250	224	90	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	250	223	87	250	227	89	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	250	217	87	250	226	90	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	250	180	72	250	182	73	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	250	235	94	250	227	91	3	70-130/30
79-01-6	Trichloroethene	ND	250	209	84	250	211	84	1	70-130/30
75-69-4	Trichlorofluoromethane	ND	250	136	54* a	250	137	55* a	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	250	228	91	250	221	88	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	250	219	88	250	217	87	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	250	212	85	250	213	85	0	70-130/30
108-05-4	Vinyl Acetate	ND	250	269	108	250	258	103	4	70-130/30
75-01-4	Vinyl chloride	ND	250	134	54* a	250	137	55* a	2	70-130/30
	m,p-Xylene	ND	500	505	101	500	522	104	3	70-130/30
95-47-6	o-Xylene	ND	250	270	108	250	281	112	4	70-130/30
1330-20-7	Xylene (total)	ND	750	774	103	750	804	107	4	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13142-1MS	N66867.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1MSD	N66868.D	5	08/21/12	JM	n/a	n/a	MSN2515
MC13142-1	N66866.D	1	08/21/12	JM	n/a	n/a	MSN2515

The QC reported here applies to the following samples:

Method: SW846 8260B

MC12942-1

CAS No.	Surrogate Recoveries	MS	MSD	MC13142-1	Limits
1868-53-7	Dibromofluoromethane	90%	89%	89%	70-130%
2037-26-5	Toluene-D8	96%	95%	91%	70-130%
460-00-4	4-Bromofluorobenzene	89%	88%	96%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Volatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2512-CC2468	Injection Date:	08/17/12
Lab File ID:	N66782.D	Injection Time:	13:54
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	152398	9.02	231186	9.89	113397	13.14	114179	15.70	64322	6.56
Upper Limit <sup>a</sup>	304796	9.52	462372	10.39	226794	13.64	228358	16.20	128644	7.06
Lower Limit <sup>b</sup>	76199	8.52	115593	9.39	56699	12.64	57090	15.20	32161	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2512-BS	168359	9.02	240070	9.89	131037	13.14	127328	15.70	61307	6.56
MSN2512-BSD	149437	9.02	248165	9.89	123957	13.14	115078	15.70	55717	6.56
MSN2512-MB	160331	9.02	240599	9.89	119577	13.15	95607	15.70	52979	6.57
ZZZZZZ	141818	9.02	220974	9.89	108889	13.15	90986	15.71	48285	6.58
ZZZZZZ	161924	9.02	241742	9.89	123121	13.14	122197	15.70	61137	6.56
MC12870-4	172211	9.02	257763	9.89	127732	13.15	125716	15.70	53392	6.57
MC12870-4MS	169372	9.02	254380	9.89	127924	13.14	126190	15.70	67500	6.56
MC12870-4MSD	167570	9.02	256902	9.89	130163	13.15	122765	15.70	65039	6.57
ZZZZZZ	168232	9.02	255625	9.89	122507	13.15	113092	15.70	58241	6.57
ZZZZZZ	162723	9.02	246607	9.89	119504	13.15	108680	15.71	58589	6.57
ZZZZZZ	165338	9.03	308089	9.90	146653	13.14	142458	15.70	66476	6.56
ZZZZZZ	185538	9.02	282422	9.89	134586	13.15	128702	15.70	63908	6.57
ZZZZZZ	188683	9.02	292377	9.89	136531	13.15	127541	15.70	71167	6.57
ZZZZZZ	190386	9.02	312657	9.89	145931	13.15	135350	15.70	70801	6.57
ZZZZZZ	205011	9.02	332909	9.89	155770	13.14	145381	15.70	69451	6.56
ZZZZZZ	209507	9.03	349371	9.90	158586	13.14	147822	15.70	72286	6.56
MC12942-2	197163	9.02	330863	9.89	154875	13.15	139946	15.70	74190	6.56
MC12942-3	211551	9.02	348439	9.89	158491	13.15	148021	15.70	77402	6.56
MC12942-4	202409	9.02	313303	9.89	143668	13.15	130293	15.70	73049	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.1  
6

# Volatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2514-CC2468	Injection Date:	08/20/12
Lab File ID:	N66835.D	Injection Time:	08:49
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
Upper Limit <sup>a</sup>	238570	9.52	355844	10.39	202392	13.65	187186	16.20	96770	7.06
Lower Limit <sup>b</sup>	59643	8.52	88961	9.39	50598	12.65	46797	15.20	24193	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2514-BS	119285	9.02	177922	9.89	101196	13.15	93593	15.70	48385	6.56
MSN2514-BSD	131527	9.02	194742	9.89	104163	13.15	97420	15.70	51745	6.56
MSN2514-MB	116175	9.02	175016	9.89	91498	13.15	82202	15.70	53764	6.57
ZZZZZZ	110387	9.02	161728	9.89	85841	13.15	72844	15.71	51759	6.57
ZZZZZZ	103985	9.02	152724	9.89	81698	13.14	79453	15.70	42536	6.57
ZZZZZZ	120794	9.02	180937	9.88	102916	13.15	99655	15.70	52693	6.56
ZZZZZZ	132300	9.02	196454	9.89	102351	13.15	88889	15.70	51415	6.56
ZZZZZZ	128302	9.02	189196	9.89	98361	13.15	84824	15.70	53230	6.57
ZZZZZZ	115479	9.02	171824	9.89	90654	13.15	77410	15.70	44901	6.57
ZZZZZZ	118516	9.02	173218	9.89	90126	13.15	75951	15.70	44246	6.57
ZZZZZZ	114874	9.02	171628	9.89	90059	13.15	79557	15.70	41446	6.57
MC12944-15	107209	9.02	160640	9.89	81210	13.15	71103	15.70	41687	6.57
ZZZZZZ	106676	9.01	163106	9.89	86273	13.15	71137	15.70	45130	6.56
MC12942-2 <sup>c</sup>	107118	9.02	158683	9.89	85706	13.15	74032	15.70	40817	6.57
ZZZZZZ	107424	9.02	161341	9.89	85386	13.15	71739	15.70	43608	6.57
ZZZZZZ	108875	9.02	168961	9.88	97176	13.15	99551	15.70	43349	6.56
MC12944-15MS	143688	9.02	210891	9.89	114622	13.15	105761	15.70	56406	6.56
MC12944-15MSD	140640	9.01	209077	9.88	108708	13.15	104319	15.70	55543	6.56
MC12942-3 <sup>c</sup>	139105	9.02	208838	9.89	105188	13.14	94258	15.70	55629	6.56
ZZZZZZ	132779	9.02	201615	9.89	102905	13.15	90402	15.70	48467	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

# Volatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2515-CC2468	Injection Date:	08/21/12
Lab File ID:	N66860.D	Injection Time:	11:13
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	148874	9.01	234230	9.89	120716	13.15	118749	15.70	62326	6.56
Upper Limit <sup>a</sup>	297748	9.51	468460	10.39	241432	13.65	237498	16.20	124652	7.06
Lower Limit <sup>b</sup>	74437	8.51	117115	9.39	60358	12.65	59375	15.20	31163	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2515-BS	157860	9.02	251135	9.88	129872	13.15	122799	15.70	63524	6.56
MSN2515-BSD	160245	9.01	253526	9.89	124046	13.14	122145	15.70	64639	6.56
MSN2515-MB	143124	9.02	228543	9.89	107934	13.15	92774	15.71	52802	6.57
MC12942-1	155324	9.02	245572	9.89	116273	13.15	102406	15.70	54403	6.57
MC13142-1	145833	9.02	236480	9.89	112423	13.15	95361	15.70	52609	6.57
MC13142-1MS	151388	9.02	246348	9.89	121960	13.14	118753	15.70	55176	6.56
MC13142-1MSD	157802	9.02	258162	9.89	125125	13.14	126362	15.70	59055	6.57
ZZZZZZ	154492	9.02	246896	9.89	118634	13.15	114497	15.70	58221	6.56
ZZZZZZ	149715	9.02	234952	9.89	112613	13.15	97703	15.71	59774	6.57
ZZZZZZ	131842	9.02	206751	9.89	98871	13.15	83413	15.71	50135	6.57
ZZZZZZ	136469	9.02	220737	9.89	104931	13.15	90101	15.70	57510	6.57
ZZZZZZ	121152	9.02	199714	9.89	98564	13.15	82399	15.70	43406	6.57
ZZZZZZ	132524	9.02	209708	9.89	100242	13.14	83829	15.70	55512	6.58
ZZZZZZ	127251	9.02	208178	9.89	98590	13.15	82661	15.71	45837	6.57
ZZZZZZ	127055	9.02	209525	9.89	98389	13.14	85631	15.71	53315	6.57
ZZZZZZ	124231	9.02	211265	9.89	102981	13.15	109032	15.70	47194	6.56
ZZZZZZ	145896	9.02	236677	9.89	112310	13.15	99839	15.70	49613	6.57
ZZZZZZ	134070	9.02	223658	9.89	106992	13.15	91727	15.70	48819	6.58
ZZZZZZ	133351	9.02	221848	9.89	103399	13.15	90668	15.70	42122	6.57
ZZZZZZ	134151	9.02	224772	9.89	104769	13.15	99884	15.70	52785	6.57
ZZZZZZ	124966	9.02	215249	9.89	101658	13.15	87784	15.70	57599	6.56
ZZZZZZ	123919	9.01	205023	9.89	97613	13.15	86481	15.70	44437	6.57

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.3  
6

# Volatile Surrogate Recovery Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12942-1	N66865.D	88	93	95
MC12942-2	N66849.D	95	96	100
MC12942-2	N66805.D	79	94	94
MC12942-3	N66857.D	90	94	96
MC12942-3	N66806.D	75	92	91
MC12942-4	N66807.D	77	93	95
MC12870-4MS	N66792.D	82	97	89
MC12870-4MSD	N66793.D	81	94	92
MC12944-15MS	N66855.D	85	96	94
MC12944-15MSD	N66856.D	88	97	93
MC13142-1MS	N66867.D	90	96	89
MC13142-1MSD	N66868.D	89	95	88
MSN2512-BS	N66783.D	82	102	87
MSN2512-BSD	N66784.D	83	97	96
MSN2512-MB	N66786.D	85	97	101
MSN2514-BS	N66835.D	91	98	93
MSN2514-BSD	N66836.D	90	97	96
MSN2514-MB	N66838.D	94	96	96
MSN2515-BS	N66861.D	87	95	89
MSN2515-BSD	N66862.D	87	95	89
MSN2515-MB	N66864.D	89	93	97

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

6.5.1  
6



## GC/MS Semi-volatiles

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### QC Data Summaries

7

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MB	W3868.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	0.37	5.0	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MB	W3868.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	34%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	67%	15-110%
4165-60-0	Nitrobenzene-d5	68%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	100%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-MB	U9176.D	1	08/13/12	NS	08/09/12	OP29979	MSU508

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	92%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-BS	W3869.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	32.2	32	30-130
95-57-8	2-Chlorophenol	100	71.8	72	30-130
59-50-7	4-Chloro-3-methyl phenol	100	78.6	79	30-130
120-83-2	2,4-Dichlorophenol	100	78.4	78	30-130
105-67-9	2,4-Dimethylphenol	100	71.7	72	30-130
51-28-5	2,4-Dinitrophenol	100	79.7	80	30-130
534-52-1	4,6-Dinitro-o-cresol	100	105	105	30-130
95-48-7	2-Methylphenol	100	63.0	63	30-130
	3&4-Methylphenol	200	124	62	30-130
88-75-5	2-Nitrophenol	100	82.4	82	30-130
100-02-7	4-Nitrophenol	100	4.0	4* a	30-130
87-86-5	Pentachlorophenol	100	79.9	80	30-130
108-95-2	Phenol	100	35.0	35	30-130
95-95-4	2,4,5-Trichlorophenol	100	84.6	85	30-130
88-06-2	2,4,6-Trichlorophenol	100	83.4	83	30-130
62-53-3	Aniline	50	17.2	34* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	44.8	90	40-140
85-68-7	Butyl benzyl phthalate	50	49.4	99	40-140
100-51-6	Benzyl Alcohol	50	33.5	67	40-140
91-58-7	2-Chloronaphthalene	50	39.8	80	40-140
106-47-8	4-Chloroaniline	50	32.6	65	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	44.3	89	40-140
111-44-4	bis(2-Chloroethyl)ether	50	43.8	88	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	49.4	99	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	44.8	90	40-140
122-66-7	1,2-Diphenylhydrazine	50	50.0	100	40-140
121-14-2	2,4-Dinitrotoluene	50	46.0	92	40-140
606-20-2	2,6-Dinitrotoluene	50	45.3	91	40-140
91-94-1	3,3'-Dichlorobenzidine	50	50.7	101	40-140
132-64-9	Dibenzofuran	50	40.3	81	40-140
84-74-2	Di-n-butyl phthalate	50	49.0	98	40-140
117-84-0	Di-n-octyl phthalate	50	58.5	117	40-140
84-66-2	Diethyl phthalate	50	47.4	95	40-140
131-11-3	Dimethyl phthalate	50	45.5	91	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	49.8	100	40-140
118-74-1	Hexachlorobenzene	50	45.9	92	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-BS	W3869.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	8.9	18* a	40-140
67-72-1	Hexachloroethane	50	27.2	54	40-140
78-59-1	Isophorone	50	42.8	86	40-140
88-74-4	2-Nitroaniline	50	44.5	89	40-140
99-09-2	3-Nitroaniline	50	39.0	78	40-140
100-01-6	4-Nitroaniline	50	38.2	76	40-140
98-95-3	Nitrobenzene	50	43.9	88	40-140
62-75-9	n-Nitrosodimethylamine	50	26.4	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	47.4	95	40-140
86-30-6	N-Nitrosodiphenylamine	50	46.2	92	40-140
110-86-1	Pyridine	50	23.2	46	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	46%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	15-110%
4165-60-0	Nitrobenzene-d5	86%	30-130%
321-60-8	2-Fluorobiphenyl	73%	30-130%
1718-51-0	Terphenyl-d14	104%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-BS	U9177.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
OP29979-BSD	U9253.D	1	08/16/12	NS	08/09/12	OP29979	MSU511

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	38.6	77	38.5	77	0	40-140/30
208-96-8	Acenaphthylene	50	28.3	57	28.0	56	1	40-140/30
120-12-7	Anthracene	50	41.6	83	39.0	78	6	40-140/30
56-55-3	Benzo(a)anthracene	50	46.7	93	42.4	85	10	40-140/30
50-32-8	Benzo(a)pyrene	50	46.5	93	36.1	72	25	40-140/30
205-99-2	Benzo(b)fluoranthene	50	55.2	110	41.1	82	29	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	47.1	94	36.4	73	26	40-140/30
207-08-9	Benzo(k)fluoranthene	50	56.2	112	44.4	89	23	40-140/30
218-01-9	Chrysene	50	42.5	85	37.8	76	12	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	49.1	98	36.3	73	30	40-140/30
206-44-0	Fluoranthene	50	40.7	81	40.8	82	0	40-140/30
86-73-7	Fluorene	50	40.1	80	38.5	77	4	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	48.9	98	37.3	75	27	40-140/30
90-12-0	1-Methylnaphthalene	50	28.3	57	43.8	88	43* a	40-140/30
91-57-6	2-Methylnaphthalene	50	31.9	64	40.5	81	24	40-140/30
91-20-3	Naphthalene	50	32.6	65	34.2	68	5	40-140/30
85-01-8	Phenanthrene	50	41.6	83	39.2	78	6	40-140/30
129-00-0	Pyrene	50	39.1	78	39.2	78	0	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	83%	82%	30-130%
321-60-8	2-Fluorobiphenyl	70%	73%	30-130%
1718-51-0	Terphenyl-d14	103%	76%	30-130%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MS	W3875.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
OP29978-MSD	W3876.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
MC12994-1	W3877.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples:

Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	MC12994-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	34.2	34	100	35.0	35	2	30-130/20
95-57-8	2-Chlorophenol	ND	100	72.3	72	100	71.2	71	2	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	79.8	80	100	78.3	78	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	79.8	80	100	77.9	78	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	70.0	70	100	77.0	77	10	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	73.2	73	100	81.1	81	10	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	96.3	96	100	103	103	7	30-130/20
95-48-7	2-Methylphenol	ND	100	63.9	64	100	63.0	63	1	30-130/20
	3&4-Methylphenol	ND	200	125	63	200	123	62	2	30-130/20
88-75-5	2-Nitrophenol	ND	100	83.1	83	100	82.7	83	0	30-130/20
100-02-7	4-Nitrophenol	ND	100	ND	0* a	100	ND	0* a	nc	30-130/20
87-86-5	Pentachlorophenol	ND	100	81.7	82	100	77.7	78	5	30-130/20
108-95-2	Phenol	ND	100	36.0	36	100	33.1	33	8	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	85.1	85	100	84.2	84	1	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	84.9	85	100	84.6	85	0	30-130/20
62-53-3	Aniline	ND	50	17.7	35* a	50	ND	0* a	200* b	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	44.8	90	50	43.6	87	3	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	50.0	100	50	50.5	101	1	40-140/20
100-51-6	Benzyl Alcohol	ND	50	33.9	68	50	31.3	63	8	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	38.8	78	50	41.6	83	7	40-140/20
106-47-8	4-Chloroaniline	ND	50	32.4	65	50	3.1	6* a	165* b	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	44.9	90	50	43.7	87	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	44.0	88	50	42.7	85	3	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	49.4	99	50	50.4	101	2	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	44.7	89	50	46.1	92	3	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	49.7	99	50	48.2	96	3	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	45.3	91	50	46.1	92	2	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	45.0	90	50	44.7	89	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	48.8	98	50	ND	0* a	200* b	40-140/20
132-64-9	Dibenzofuran	ND	50	39.5	79	50	41.2	82	4	40-140/20
84-74-2	Di-n-butyl phthalate	ND	50	49.2	98	50	48.9	98	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	59.4	119	50	64.2	128	8	40-140/20
84-66-2	Diethyl phthalate	0.26	50	48.2	96	50	47.7	95	1	40-140/20
131-11-3	Dimethyl phthalate	ND	50	44.4	89	50	44.9	90	1	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND	50	50.3	101	50	50.6	101	1	40-140/20
118-74-1	Hexachlorobenzene	ND	50	46.3	93	50	44.9	90	3	40-140/20

\* = Outside of Control Limits.

7.4.1  
7



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29978-MS	W3875.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
OP29978-MSD	W3876.D	1	08/13/12	KR	08/09/12	OP29978	MSW176
MC12994-1	W3877.D	1	08/13/12	KR	08/09/12	OP29978	MSW176

The QC reported here applies to the following samples: Method: SW846 8270C

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	MC12994-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	8.6	17* a	50	10.5	21* a	20	40-140/20
67-72-1	Hexachloroethane	ND	50	26.9	54	50	30.2	60	12	40-140/20
78-59-1	Isophorone	ND	50	43.0	86	50	42.9	86	0	40-140/20
88-74-4	2-Nitroaniline	ND	50	44.6	89	50	43.2	86	3	40-140/20
99-09-2	3-Nitroaniline	ND	50	37.8	76	50	0.73	1* a	192* b	40-140/20
100-01-6	4-Nitroaniline	ND	50	37.0	74	50	13.1	26* a	95* b	40-140/20
98-95-3	Nitrobenzene	ND	50	44.2	88	50	44.6	89	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	26.5	53	50	27.0	54	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	48.2	96	50	49.2	98	2	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	46.0	92	50	36.1	72	24* b	40-140/20
110-86-1	Pyridine	ND	50	24.0	48	50	ND	0* a	200* b	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12994-1	Limits
367-12-4	2-Fluorophenol	47%	45%	39%	15-110%
4165-62-2	Phenol-d5	34%	32%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	89%	75%	15-110%
4165-60-0	Nitrobenzene-d5	86%	87%	79%	30-130%
321-60-8	2-Fluorobiphenyl	72%	77%	69%	30-130%
1718-51-0	Terphenyl-d14	105%	105%	104%	30-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.4.1

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29979-MS	U9178.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
OP29979-MSD	U9179.D	1	08/13/12	NS	08/09/12	OP29979	MSU508
MC12994-2	U9180.D	1	08/13/12	NS	08/09/12	OP29979	MSU508

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC12942-1, MC12942-2, MC12942-3

CAS No.	Compound	MC12994-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	38.3	77	50	39.6	79	3	40-140/20
208-96-8	Acenaphthylene	ND	50	28.1	56	50	28.5	57	1	40-140/20
120-12-7	Anthracene	ND	50	40.2	80	50	39.7	79	1	40-140/20
56-55-3	Benzo(a)anthracene	ND	50	46.1	92	50	45.6	91	1	40-140/20
50-32-8	Benzo(a)pyrene	ND	50	46.1	92	50	54.2	108	16	40-140/20
205-99-2	Benzo(b)fluoranthene	ND	50	53.4	107	50	67.2	134	23* a	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND	50	47.6	95	50	56.2	112	17	40-140/20
207-08-9	Benzo(k)fluoranthene	ND	50	55.6	111	50	70.4	141* b	23* a	40-140/20
218-01-9	Chrysene	ND	50	42.6	85	50	42.9	86	1	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND	50	48.9	98	50	61.6	123	23* a	40-140/20
206-44-0	Fluoranthene	ND	50	39.4	79	50	40.7	81	3	40-140/20
86-73-7	Fluorene	ND	50	39.9	80	50	40.3	81	1	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	49.2	98	50	59.7	119	19	40-140/20
90-12-0	1-Methylnaphthalene	ND	50	25.3	51	50	33.2	66	27* a	40-140/20
91-57-6	2-Methylnaphthalene	ND	50	31.7	63	50	34.3	69	8	40-140/20
91-20-3	Naphthalene	ND	50	32.7	65	50	35.0	70	7	40-140/20
85-01-8	Phenanthrene	ND	50	40.7	81	50	41.3	83	1	40-140/20
129-00-0	Pyrene	ND	50	38.1	76	50	39.0	78	2	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC12994-2	Limits
4165-60-0	Nitrobenzene-d5	83%	84%	76%	30-130%
321-60-8	2-Fluorobiphenyl	71%	73%	68%	30-130%
1718-51-0	Terphenyl-d14	99%	104%	96%	30-130%

- (a) High RPD due to possible matrix interference and/or sample non-homogeneity.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

7.4.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	74183	3.74	215966	4.72	121568	6.14	231849	7.44	157950	10.22	287514	11.67
Upper Limit <sup>a</sup>	148366	4.24	431932	5.22	243136	6.64	463698	7.94	315900	10.72	575028	12.17
Lower Limit <sup>b</sup>	37092	3.24	107983	4.22	60784	5.64	115925	6.94	78975	9.72	143757	11.17

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29999-MS	71583	3.74	207520	4.72	112545	6.14	209934	7.45	83852	10.22	111938 <sup>c</sup>	11.66
OP29999-MSD	71233	3.74	203886	4.72	109746	6.14	205650	7.44	83352	10.22	114920 <sup>c</sup>	11.66
MC12978-4	69748	3.74	200172	4.72	109689	6.14	203795	7.44	88467	10.22	120327 <sup>c</sup>	11.66
ZZZZZZ	72217	3.74	205369	4.72	111617	6.14	207245	7.44	92848	10.22	130035 <sup>c</sup>	11.66
ZZZZZZ	72201	3.74	204902	4.72	112553	6.14	208471	7.44	93883	10.22	130090 <sup>c</sup>	11.66
ZZZZZZ	68332	3.74	196326	4.72	106309	6.14	198140	7.44	91794	10.22	127541 <sup>c</sup>	11.66
ZZZZZZ	68525	3.74	193092	4.72	106918	6.14	198831	7.44	109460	10.22	161532	11.66
ZZZZZZ	64898	3.74	184919	4.72	100976	6.14	189141	7.44	69395 <sup>c</sup>	10.22	94469 <sup>c</sup>	11.66
ZZZZZZ	73978	3.74	210885	4.72	115830	6.14	212901	7.44	79723	10.22	107257 <sup>c</sup>	11.66
ZZZZZZ	64928	3.74	189697	4.72	102497	6.14	186877	7.44	71573 <sup>c</sup>	10.22	96546 <sup>c</sup>	11.66
ZZZZZZ	71004	3.74	203218	4.72	113722	6.14	213711	7.44	141576	10.22	199474	11.66
ZZZZZZ	70986	3.74	202204	4.72	112847	6.14	209861	7.44	144823	10.22	199711	11.66
OP29979-MB	66015	3.74	192336	4.72	106078	6.14	197204	7.44	137291	10.22	217162	11.66
OP29979-BS	63085	3.74	184334	4.72	100797	6.14	185462	7.45	126986	10.23	206580	11.66
OP29979-MS	60942	3.74	176504	4.72	98042	6.14	188532	7.45	132951	10.23	219452	11.66
OP29979-MSD	67652	3.74	194177	4.72	108229	6.14	201785	7.45	134825	10.23	173460	11.67
MC12994-2	66309	3.74	193152	4.72	106374	6.14	198533	7.44	137855	10.22	234364	11.66
ZZZZZZ	65411	3.74	188895	4.72	106106	6.14	197315	7.44	139482	10.22	230154	11.66
MC12942-1	64629	3.74	188478	4.72	105190	6.14	194361	7.44	138043	10.22	229882	11.66
MC12942-2	62752	3.74	186064	4.72	99713	6.14	183392	7.44	129195	10.22	229281	11.67
MC12942-3	63779	3.74	191425	4.72	101337	6.14	190332	7.45	133777	10.22	236316	11.67
ZZZZZZ	67061	3.74	195745	4.72	107355	6.14	200814	7.44	141954	10.22	243369	11.66
MC12978-4	71272	3.74	203022	4.72	113316	6.14	206807	7.44	89607	10.22	124219 <sup>c</sup>	11.66
ZZZZZZ	67065	3.74	192739	4.72	105486	6.14	196366	7.44	90479	10.22	128564 <sup>c</sup>	11.66
ZZZZZZ	67697	3.74	194421	4.72	108014	6.13	203927	7.44	95375	10.22	135262 <sup>c</sup>	11.66
ZZZZZZ	71130	3.74	205153	4.72	109730	6.14	204141	7.44	94580	10.22	131219 <sup>c</sup>	11.66
ZZZZZZ	64007	3.74	183110	4.72	101259	6.14	187958	7.44	71606 <sup>c</sup>	10.22	96577 <sup>c</sup>	11.66
ZZZZZZ	73579	3.74	211712	4.72	117518	6.14	216650	7.44	83184	10.22	109599 <sup>c</sup>	11.66
ZZZZZZ	66563	3.74	197066	4.72	106019	6.14	195577	7.44	73907 <sup>c</sup>	10.22	98115 <sup>c</sup>	11.66

IS 1 = 1,4-Dichlorobenzene-d4  
 IS 2 = Naphthalene-d8  
 IS 3 = Acenaphthene-D10  
 IS 4 = Phenanthrene-d10  
 IS 5 = Chrysene-d12

7.5.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12942  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU508-CC486	Injection Date:	08/13/12
Lab File ID:	U9160.D	Injection Time:	09:42
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

Lab	IS 1	IS 2	IS 3	IS 4	IS 5	IS 6						
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 6 = Perylene-d12

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Results confirmed by reanalysis.

# Semivolatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU511-CC486	Injection Date:	08/16/12
Lab File ID:	U9252.D	Injection Time:	11:52
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	77180	3.69	271247	4.67	152714	6.08	281214	7.39	173656	10.17	300854	11.60
Upper Limit <sup>a</sup>	154360	4.19	542494	5.17	305428	6.58	562428	7.89	347312	10.67	601708	12.10
Lower Limit <sup>b</sup>	38590	3.19	135624	4.17	76357	5.58	140607	6.89	86828	9.67	150427	11.10

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29979-BSD	64070	3.69	188036	4.67	122814	6.08	222734	7.39	137688	10.17	253155	11.60
ZZZZZZ	64568	3.69	192030	4.67	123624	6.08	221264	7.39	142896	10.17	264196	11.60
ZZZZZZ	60091	3.69	212907	4.67	117739	6.08	216394	7.39	137136	10.17	248891	11.60
ZZZZZZ	62743	3.69	221244	4.67	120264	6.08	222778	7.39	139035	10.17	259339	11.60
ZZZZZZ	61916	3.69	179989	4.67	120528	6.08	219716	7.39	138321	10.17	251756	11.60
ZZZZZZ	63465	3.69	223690	4.67	121939	6.08	222311	7.39	139876	10.17	259912	11.60
ZZZZZZ	63941	3.69	225680	4.67	120670	6.08	219857	7.39	137887	10.17	253022	11.60
ZZZZZZ	65155	3.69	222882	4.67	122908	6.08	225164	7.39	141973	10.17	261700	11.60

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.5.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW176-CC129	Injection Date:	08/13/12
Lab File ID:	W3865.D	Injection Time:	08:38
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	568383	3.79	2125545	4.78	1331140	6.20	2438245	7.53	2961924	10.42	2555816	11.99
Upper Limit <sup>a</sup>	1136766	4.29	4251090	5.28	2662280	6.70	4876490	8.03	5923848	10.92	5111632	12.49
Lower Limit <sup>b</sup>	284192	3.29	1062773	4.28	665570	5.70	1219123	7.03	1480962	9.92	1277908	11.49

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29988-MB	516437	3.79	1925687	4.78	1136646	6.20	2008432	7.52	2393291	10.40	1994564	11.98
OP29988-BS	521823	3.79	1912591	4.78	1156624	6.20	2055114	7.52	2499894	10.41	2017284	11.98
OP29978-MB	432371	3.79	1622075	4.78	973554	6.20	1748206	7.52	2056611	10.40	1775418	11.98
OP29978-BS	427284	3.79	1583039	4.78	955279	6.20	1675200	7.52	2069232	10.41	1710873	11.98
ZZZZZZ	492492	3.79	1769695	4.78	1039226	6.20	1786427	7.52	1602635	10.41	1184919*	11.98
ZZZZZZ	544145	3.79	1983541	4.77	1163800	6.20	1958882	7.52	1740202	10.40	1295358	11.98
ZZZZZZ	522715	3.79	1907276	4.78	1111283	6.20	1898199	7.52	1428195 <sup>c</sup>	10.40	1047966 <sup>c</sup>	11.98
ZZZZZZ	512687	3.79	1854313	4.78	1102200	6.20	1890351	7.52	1476916 <sup>c</sup>	10.41	1080093 <sup>c</sup>	11.98
ZZZZZZ	493574	3.79	1790553	4.78	1044489	6.20	1789889	7.52	1487663	10.40	1090677 <sup>c</sup>	11.98
OP29978-MS	464735	3.79	1707028	4.78	1032699	6.20	1786358	7.52	2128910	10.41	1767891	11.98
OP29978-MSD	456249	3.79	1673903	4.78	996564	6.20	1763994	7.52	2085759	10.41	1617159	11.98
MC12994-1	507378	3.79	1872516	4.78	1117929	6.20	2005153	7.52	2306028	10.41	2097976	11.98
ZZZZZZ	511202	3.79	1918461	4.78	1142125	6.20	2023012	7.52	2317870	10.41	2090413	11.98
MC12942-1	500453	3.79	1839073	4.78	1095290	6.20	1963795	7.52	2242357	10.40	2031102	11.98
MC12942-2	499219	3.79	1871439	4.77	1086411	6.20	1923794	7.52	2139468	10.41	2058752	11.98
MC12942-3	503792	3.79	1833018	4.78	1100117	6.20	1952388	7.52	2222439	10.41	2127147	11.98
ZZZZZZ	458335	3.79	1735032	4.77	1048235	6.20	1820657	7.52	2086949	10.40	2156640	11.98
ZZZZZZ	533727	3.79	1972738	4.77	1162790	6.20	1961156	7.52	2112078	10.40	2402051	11.98
OP29988-MS	478820	3.79	1752350	4.78	1052462	6.20	1788383	7.52	2110894	10.41	1827710	11.98
OP29988-MSD	476151	3.79	1746310	4.77	1042347	6.20	1816722	7.52	2204558	10.42	1943956	11.99
MC12990-9	456865	3.79	1679291	4.77	996637	6.20	1716306	7.52	2037725	10.41	1831271	11.98
ZZZZZZ	466445	3.79	1683886	4.78	980058	6.20	1694356	7.52	2011202	10.41	1888710	12.00
ZZZZZZ	502985	3.79	1812686	4.78	1069342	6.20	1837698	7.53	2520378	10.43	2468344	12.03
ZZZZZZ	482930	3.79	1720255	4.78	988575	6.20	1682044	7.53	2055777	10.42	1989537	12.01
ZZZZZZ	490028	3.79	1769741	4.78	1038525	6.20	1788656	7.53	2019205	10.42	1893719	12.00
ZZZZZZ	426942	3.79	1587863	4.78	963575	6.20	1748456	7.52	2144011	10.42	1903023	12.00
ZZZZZZ	501667	3.79	1784066	4.78	1046105	6.20	1721303	7.53	1871444	10.42	1768674	12.00
ZZZZZZ	542676	3.79	1961558	4.78	1181414	6.20	1973179	7.53	2299018	10.42	2132281	12.00

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

7.5.3  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC12942  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW176-CC129	Injection Date:	08/13/12
Lab File ID:	W3865.D	Injection Time:	08:38
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

7.5.3  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC12942-1	W3879.D	26	21	54	69	60	48
MC12942-2	W3880.D	28	25	77	71	66	43
MC12942-3	W3881.D	29	25	75	78	68	46
OP29978-BS	W3869.D	46	33	90	86	73	104
OP29978-MB	W3868.D	34	24	67	68	61	100
OP29978-MS	W3875.D	47	34	93	86	72	105
OP29978-MSD	W3876.D	45	32	89	87	77	105

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.6.1

7



# Semivolatile Surrogate Recovery Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC12942-1	U9182.D	66	60	47
MC12942-2	U9183.D	68	66	42
MC12942-3	U9184.D	73	67	44
OP29979-BS	U9177.D	83	70	103
OP29979-BSD	U9253.D	82	73	76
OP29979-MB	U9176.D	67	61	92
OP29979-MS	U9178.D	83	71	99
OP29979-MSD	U9179.D	84	73	104

**Surrogate Compounds**                      **Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.6.2  
7

## GC Volatiles

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## QC Data Summaries



---

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

Job Number: MC12942  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MB	BK15933.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples:

Method: SW846 8011

MC12942-1, MC12942-2, MC12942-3, MC12942-5

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	94%	36-173%
460-00-4	Bromofluorobenzene (S)	113%	36-173%

# Blank Spike Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-BS	BK15934.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples:

Method: SW846 8011

MC12942-1, MC12942-2, MC12942-3, MC12942-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.077	108	60-140
106-93-4	1,2-Dibromoethane	0.071	0.072	101	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	75%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29955-MS	BK15935.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
OP29955-MSD	BK15936.D	1	08/10/12	AP	08/08/12	OP29955	GBK604
MC12879-7	BK15938.D	1	08/10/12	AP	08/08/12	OP29955	GBK604

The QC reported here applies to the following samples: Method: SW846 8011

MC12942-1, MC12942-2, MC12942-3, MC12942-5

CAS No.	Compound	MC12879-7 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.071	0.070	99	0.071	0.072	101	3	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.071	0.069	97	0.071	0.070	99	1	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC12879-7	Limits
460-00-4	Bromofluorobenzene (S)	86%	86%	95%	36-173%
460-00-4	Bromofluorobenzene (S)	97%	101%	113%	36-173%

8.3.1  
8

\* = Outside of Control Limits.

# Volatile Surrogate Recovery Summary

Job Number: MC12942

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC12942-1	BK15955.D	131	118
MC12942-2	BK15956.D	91	113
MC12942-3	BK15957.D	100	138
MC12942-5	BK15958.D	89	108
OP29955-BS	BK15934.D	75	85
OP29955-MB	BK15933.D	94	113
OP29955-MS	BK15935.D	86	97
OP29955-MSD	BK15936.D	86	101

Surrogate Compounds                      Recovery Limits

S1 = Bromofluorobenzene (S)                      36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15926.D	Injection Time:	03:45
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15927.D	08/10/12	04:10	5.28	4.40
ZZZZZZ	BK15928.D	08/10/12	04:34	5.28	4.40
ZZZZZZ	BK15929.D	08/10/12	04:59	5.28	4.40
ZZZZZZ	BK15930.D	08/10/12	05:23	5.28	4.40
ZZZZZZ	BK15931.D	08/10/12	05:48	5.28	4.40
ZZZZZZ	BK15932.D	08/10/12	06:12	5.28	4.40
OP29955-MB	BK15933.D	08/10/12	06:37	5.28	4.40
OP29955-BS	BK15934.D	08/10/12	07:01	5.28	4.40
OP29955-MS	BK15935.D	08/10/12	07:26	5.28	4.40
OP29955-MSD	BK15936.D	08/10/12	07:50	5.28	4.40

**Surrogate Compounds**

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC12942  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK604-CC604	Injection Date:	08/10/12
Lab File ID:	BK15948.D	Injection Time:	12:42
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.28	4.40
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK15949.D	08/10/12	13:06	5.28	4.40
ZZZZZZ	BK15950.D	08/10/12	13:30	5.28	4.40
ZZZZZZ	BK15951.D	08/10/12	13:54	5.28	4.40
ZZZZZZ	BK15952.D	08/10/12	14:24	5.28	4.40
ZZZZZZ	BK15953.D	08/10/12	14:48	5.28	4.40
ZZZZZZ	BK15954.D	08/10/12	15:12	5.28	4.40
MC12942-1	BK15955.D	08/10/12	15:37	5.28	4.40
MC12942-2	BK15956.D	08/10/12	16:01	5.28	4.40
MC12942-3	BK15957.D	08/10/12	16:25	5.28	4.40
MC12942-5	BK15958.D	08/10/12	16:49	5.28	4.40

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8



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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

## Shell Oil

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana,

SGS Accutest Job Number: MC13051

Sampling Date: 08/09/12

### Report to:

AECOM, INC.

elizabeth.kunkel@aecom.com

ATTN: Elizabeth Kunkel

Total number of pages in report: 107



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

H. (Brad) Madadian  
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO (MA00136) MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



ACCUTEST

October 4, 2016

Elizabeth Kunkel  
AECOM, INC.  
1001 Highlands Plaza Drive West Suite 300  
St. Louis, MO 63110  
Elizabeth.Kunkel@URS.com; [Erik.Arthur@URS.com](mailto:Erik.Arthur@URS.com)

RE: SGS Accutest Job # MC13051

Dear Elizabeth Kunkel,

As you are aware, SGS Accutest Inc. - Marlborough has been conducting an extensive review of data associated with some historical Gas Chromatography-Mass Spectroscopy volatiles analyses. As a result of this review it was determined that some revisions of the original test report for this job were needed. These corrections have been incorporated into the revised report.

Please be assured that corrective actions have been put in place to address this matter and prevent a recurrence.

We apologize for any inconvenience that this issue may have caused. Please don't hesitate to contact us if we can be of further assistance.

Sincerely,

**H. (Brad) Madadian**

Regional Laboratory Director  
SGS Accutest Inc. - Marlborough

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TESTING AND CERTIFICATION COMPANY.

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## Sample Summary

Shell Oil

Job No: MC13051  
URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC13051-1	08/09/12	00:00	DMCW08/10/12	AQ	Trip Blank Water	TB-080912-HCL
MC13051-2	08/09/12	00:00	DMCW08/10/12	AQ	Trip Blank Water	TB-080912-ST
MC13051-3	08/09/12	10:10	DMCW08/10/12	AQ	Ground Water	P93A-ROX-080912
MC13051-4	08/09/12	11:15	DMCW08/10/12	AQ	Ground Water	P93B-ROX-080912
MC13051-5	08/09/12	12:40	DMCW08/10/12	AQ	Ground Water	P93C-ROX-080912
MC13051-5D	08/09/12	12:40	DMCW08/10/12	AQ	Water Dup/MSD	P93C-ROX-080912
MC13051-5S	08/09/12	12:40	DMCW08/10/12	AQ	Water Matrix Spike	P93C-ROX-080912
MC13051-6	08/09/12	15:45	DMCW08/10/12	AQ	Ground Water	P114-ROX-080912

## SAMPLE DELIVERY GROUP CASE NARRATIVE

2

**Client:** She O

**Job No** MC 305

**Site:** URSMOSTL:Roxana 3Q 2 GW/ 2 562735 00008 900 South Centra **Report Date** 10/4/2016 6:05 PM

4 Sample(s) and 2 Trip Blank(s) were collected on 08/09/2016 and were received at SGS Accutest New England on 08/10/2016 properly preserved, at 22 Deg C and intact. These Samples received a job number of MC 305. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibration and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ

**Batch ID:** MSN25 8

- All samples were analyzed with the recommended method holding time.
- Sample(s) MC 3089-9MS, MC 3089-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specification criteria.
- MC 3089-9MS/MSD Recovery(s) for Benzene are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike.
- MC 305 -6 for 4-Bromofluorobenzene: Out of control limits. Results confirmed by reanalysis.

**Matrix:** AQ

**Batch ID:** MSV449

- All samples were analyzed with the recommended method holding time.
- Sample(s) MC 305 -5MS, MC 305 -5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specification criteria.
- Sample(s) MC 305 -3 have compounds reported with "E" quality flags indicating estimated values exceeding calibration range.
- Blank Spike Recovery(s) for Bromomethane, Carbon disulfide are out of control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 1,4-Dioxane, 2-Chloroethyl vinyl ether, 4-Methyl-2-pentanone (MIBK), Acetone, Acrolein, Dichlorodifluoromethane, Vinyl Acetate are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 1,4-Dioxane, 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Acetone, Acrolein, Carbon disulfide, Dichlorodifluoromethane are out of control limits. Out of control limits due to possible matrix interference. Refer to Blank Spike.
- MSV449-BS for Acrylonitrile, Dichlorodifluoromethane: Out of control limits. Associated samples are non-detect for this compound.
- In the Calibration Verification on MSV436-ICV436 for Acetone, dichlorodifluoromethane exceed 30% difference (response based high). Sample result (Acetone) may be based high or samples are non-detect for these compounds.
- MC 305 -5MS/MSD for Acrylonitrile: Out of control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSV449-CC436 for dichlorodifluoromethane, Carbon disulfide exceed 30% difference (response based high). Associated samples are non-detect for these compounds.

## Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ

**Batch ID:** OP3000

- A samples were extracted within the recommended method holding time
- A samples were analyzed within the recommended method holding time
- Sample(s) MC 305 -5MS, MC 305 -5MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification
- Blank Spike Recovery(s) for Hexachlorocyclopentadiene are outside control limits Blank Spike meets program technical requirements
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzene are outside control limits Outside control limits due to possible matrix interference Refer to Blank Spike
- Matrix Spike Duplicate Recovery(s) for 3,3'-Dichlorobenzene, 3-Nitrobenzene, 4-Chlorobenzene, Aniline, Pyridine are outside control limits Outside control limits due to possible matrix interference Refer to Blank Spike
- RPD(s) for MSD for 3,3'-Dichlorobenzene, 3-Nitrobenzene, 4-Chlorobenzene, 4-Nitrobenzene, Aniline, Pyridine are outside control limits for sample OP3000 -MSD High RPD due to possible matrix interference and/or sample non-homogeneity
- Calibration standard MSW 38-ICC 38, MSW 38-ICV 38, MSW 77-CC 38 not associated with this job

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ

**Batch ID:** OP30002

- A samples were extracted within the recommended method holding time
- A samples were analyzed within the recommended method holding time
- Sample(s) MC 305 -5MS, MC 305 -5MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

## Volatiles by GC By Method SW846 8011

**Matrix:** AQ

**Batch ID:** OP30032

- A samples were extracted within the recommended method holding time
- A samples were analyzed within the recommended method holding time
- Sample(s) MC 305 -5MS, MC 305 -5MSD were used as the QC samples indicated
- A method blanks for this batch meet method specification

SGS Accutest New England certifies that all analyses were performed within method specification. It is further recommended that this report be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC 305 )

## Summary of Hits

Job Number: MC13051  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/09/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
---------------	------------------	--------------------	----	-----	-------	--------

MC13051-1 TB-080912-HCL

Acetone <sup>a</sup>	3.7 J	5.0	3.0	ug/l	SW846 8260B
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MC13051-2 TB-080912-ST

No hits reported in this sample.

MC13051-3 P93A-ROX-080912

Acetone <sup>a</sup>	1630 E	5.0	3.0	ug/l	SW846 8260B
Benzene	87000	5000	2400	ug/l	SW846 8260B
n-Butylbenzene	1.6 J	5.0	0.68	ug/l	SW846 8260B
sec-Butylbenzene	4.8 J	5.0	0.55	ug/l	SW846 8260B
tert-Butylbenzene	12.8	5.0	0.64	ug/l	SW846 8260B
Ethylbenzene	225	1.0	0.51	ug/l	SW846 8260B
Isopropylbenzene	12.6	5.0	0.50	ug/l	SW846 8260B
p-Isopropyltoluene	2.2 J	5.0	0.57	ug/l	SW846 8260B
Methyl Tert Butyl Ether	48.5	1.0	0.41	ug/l	SW846 8260B
n-Propylbenzene	13.7	5.0	0.58	ug/l	SW846 8260B
Toluene	9.1	1.0	0.51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	145	5.0	0.35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	27.3	5.0	0.47	ug/l	SW846 8260B
m,p-Xylene	436	1.0	0.73	ug/l	SW846 8260B
o-Xylene	64.2	1.0	0.58	ug/l	SW846 8260B
Xylene (total)	500	1.0	0.58	ug/l	SW846 8260B
Benzoic Acid	3.2 J	11	1.2	ug/l	SW846 8270C
3&4-Methylphenol	0.96 J	11	0.81	ug/l	SW846 8270C
Phenol	208	54	10	ug/l	SW846 8270C
bis(2-Ethylhexyl)phtalate	15.3	2.2	0.40	ug/l	SW846 8270C
Acenaphthene	0.15	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene	0.048 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene	0.21	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	9.7	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	13.0	0.22	0.056	ug/l	SW846 8270C BY SIM
Naphthalene	49.6	0.11	0.038	ug/l	SW846 8270C BY SIM
Phenanthrene	0.25	0.054	0.014	ug/l	SW846 8270C BY SIM

MC13051-4 P93B-ROX-080912

Acetone <sup>a</sup>	67.2	5.0	3.0	ug/l	SW846 8260B
Benzene	317000	5000	2400	ug/l	SW846 8260B
Ethylbenzene	74.1	1.0	0.51	ug/l	SW846 8260B
Isopropylbenzene	26.6	5.0	0.50	ug/l	SW846 8260B
n-Propylbenzene	40.6	5.0	0.58	ug/l	SW846 8260B

## Summary of Hits

Job Number: MC13051  
 Account: Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
 Collected: 08/09/12



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
		Toluene	78.6	1.0	0.51	ug/l SW846 8260B
		1,2,4-Trimethylbenzene	37.2	5.0	0.35	ug/l SW846 8260B
		1,3,5-Trimethylbenzene	10.7	5.0	0.47	ug/l SW846 8260B
		m,p-Xylene	245	1.0	0.73	ug/l SW846 8260B
		o-Xylene	46.8	1.0	0.58	ug/l SW846 8260B
		Xylene (total)	292	1.0	0.58	ug/l SW846 8260B
		Phenol	178	54	10	ug/l SW846 8270C
		Diethyl phthalate	0.51 J	5.4	0.20	ug/l SW846 8270C
		bis(2-Ethylhexyl)phthalate	3.6	2.2	0.40	ug/l SW846 8270C
		Acenaphthylene	0.087 J	0.11	0.014	ug/l SW846 8270C BY SIM
		Naphthalene	4.9	0.11	0.038	ug/l SW846 8270C BY SIM
<b>MC13051-5</b>	<b>P93C-ROX-080912</b>					
		Acetone <sup>a</sup>	5.6	5.0	3.0	ug/l SW846 8260B
		Benzene	0.84	0.50	0.24	ug/l SW846 8260B
		Methyl Tert Butyl Ether	5.3	1.0	0.41	ug/l SW846 8260B
		Diethyl phthalate	0.46 J	5.2	0.19	ug/l SW846 8270C
		bis(2-Ethylhexyl)phthalate	4.3	2.1	0.39	ug/l SW846 8270C
		Acenaphthene	0.089 J	0.10	0.014	ug/l SW846 8270C BY SIM
		Acenaphthylene	0.022 J	0.10	0.014	ug/l SW846 8270C BY SIM
		Naphthalene	0.065 J	0.10	0.037	ug/l SW846 8270C BY SIM
<b>MC13051-6</b>	<b>P114-ROX-080912</b>					
		Acetone <sup>a</sup>	75.6	5.0	3.0	ug/l SW846 8260B
		Methyl Tert Butyl Ether	0.83 J	1.0	0.41	ug/l SW846 8260B
		1,2,4-Trimethylbenzene	0.39 J	5.0	0.35	ug/l SW846 8260B
		bis(2-Ethylhexyl)phthalate	3.9	2.0	0.38	ug/l SW846 8270C
		Acenaphthylene	0.029 J	0.10	0.013	ug/l SW846 8270C BY SIM

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.



Sample Results

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Report of Analysis

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## Report of Analysis

Client Sample ID:	TB-080912-HCL	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-1	Date Received:	08/10/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10790.D	1	08/22/12	AMY	n/a	n/a	MSV449
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	3.7	5.0	3.0	ug/l	J
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	TB-080912-HCL	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-1	Date Received:	08/10/12
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080912-HCL		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-1		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Trip Blank Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> TB-080912-ST	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-2	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16062.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		36-173%
460-00-4	Bromofluorobenzene (S)	113%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

Client Sample ID:	P93A-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-3	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10796.D	1	08/22/12	AMY	n/a	n/a	MSV449
Run #2	N66955.D	10000	08/23/12	JM	n/a	n/a	MSN2518

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	1630	5.0	3.0	ug/l	E
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	87000 <sup>b</sup>	5000	2400	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	1.6	5.0	0.68	ug/l	J
135-98-8	sec-Butylbenzene	4.8	5.0	0.55	ug/l	J
98-06-6	tert-Butylbenzene	12.8	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P93A-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-3	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	225	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	12.6	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	2.2	5.0	0.57	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	48.5	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	13.7	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	9.1	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	145	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	27.3	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	436	1.0	0.73	ug/l	
95-47-6	o-Xylene	64.2	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	500	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93A-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-3		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	100%	70-130%
2037-26-5	Toluene-D8	97%	120%	70-130%
460-00-4	4-Bromofluorobenzene	95%	88%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	P93A-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-3	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3915.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
Run #2	F57072.D	10	08/23/12	KR	08/12/12	OP30001	MSF2706

Run #	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	930 ml	1.0 ml

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	3.2	11	1.2	ug/l	J
95-57-8	2-Chlorophenol	ND	5.4	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.4	ug/l	
95-48-7	2-Methylphenol	ND	11	0.65	ug/l	
	3&4-Methylphenol	0.96	11	0.81	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	208 <sup>a</sup>	54	10	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.68	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.96	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93A-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-3		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	15.3	2.2	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%	38%	15-110%
4165-62-2	Phenol-d5	46%	38%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	69%	15-110%
4165-60-0	Nitrobenzene-d5	85%	65%	30-130%
321-60-8	2-Fluorobiphenyl	74%	64%	30-130%
1718-51-0	Terphenyl-d14	73%	60%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93A-ROX-080912 <b>Lab Sample ID:</b> MC13051-3 <b>Matrix:</b> AQ - Ground Water <b>Method:</b> SW846 8270C BY SIM SW846 3510C <b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	<b>Date Sampled:</b> 08/09/12 <b>Date Received:</b> 08/10/12 <b>Percent Solids:</b> n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9230.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
Run #2							

Run #	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

**BN PAH List**

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.15	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	0.048	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.21	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	9.7	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	13.0	0.22	0.056	ug/l	
91-20-3	Naphthalene	49.6	0.11	0.038	ug/l	
85-01-8	Phenanthrene	0.25	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

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## Report of Analysis

<b>Client Sample ID:</b> P93A-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-3	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16063.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
Run #2							

	Initial Volume	Final Volume
Run #1	35.8 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	131%		36-173%
460-00-4	Bromofluorobenzene (S)	108%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	P93B-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-4	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10798.D	1	08/22/12	AMY	n/a	n/a	MSV449
Run #2	N66956.D	10000	08/23/12	JM	n/a	n/a	MSN2518

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	67.2	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	317000 <sup>b</sup>	5000	2400	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P93B-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-4	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	74.1	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	26.6	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	40.6	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	78.6	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	37.2	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	10.7	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	245	1.0	0.73	ug/l	
95-47-6	o-Xylene	46.8	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	292	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93B-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-4		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	76%	110%	70-130%
2037-26-5	Toluene-D8	99%	112%	70-130%
460-00-4	4-Bromofluorobenzene	93%	80%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Result is from Run# 2

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P93B-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-4	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3916.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
Run #2	F57073.D	10	08/23/12	KR	08/12/12	OP30001	MSF2706

Run #	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	930 ml	1.0 ml

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.4	ug/l	
95-48-7	2-Methylphenol	ND	11	0.65	ug/l	
	3&4-Methylphenol	ND	11	0.81	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	178 <sup>a</sup>	54	10	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.68	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.96	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.25	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## Report of Analysis

Client Sample ID:	P93B-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-4	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.51	5.4	0.20	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.4	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	3.6	2.2	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%	33%	15-110%
4165-62-2	Phenol-d5	44%	34%	15-110%
118-79-6	2,4,6-Tribromophenol	87%	64%	15-110%
4165-60-0	Nitrobenzene-d5	79%	61%	30-130%
321-60-8	2-Fluorobiphenyl	68%	56%	30-130%
1718-51-0	Terphenyl-d14	69%	55%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P93B-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-4	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9231.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
Run #2							

Run #	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.087	0.11	0.014	ug/l	J
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	0.056	ug/l	
91-20-3	Naphthalene	4.9	0.11	0.038	ug/l	
85-01-8	Phenanthrene	ND	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	64%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93B-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-4	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16064.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

**VOA Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	93%		36-173%
460-00-4	Bromofluorobenzene (S)	90%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	P93C-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-5	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10791.D	1	08/22/12	AMY	n/a	n/a	MSV449
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	5.6	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.84	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P93C-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-5	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.3	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93C-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-5		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93C-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-5	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3914.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.2	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.65	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.92	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93C-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-5		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C		
<b>Project:</b> URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**ABN Special List**

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.46	5.2	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.2	5.2	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	4.3	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	2.1	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.61	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	5.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	30%		15-110%
118-79-6	2,4,6-Tribromophenol	94%		15-110%
4165-60-0	Nitrobenzene-d5	82%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	76%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> P93C-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-5	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9229.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
Run #2							

Run #	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.089	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	0.022	0.10	0.014	ug/l	J
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.075	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.054	ug/l	
91-20-3	Naphthalene	0.065	0.10	0.037	ug/l	J
85-01-8	Phenanthrene	ND	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P93C-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-5	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16065.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
Run #2							

	Initial Volume	Final Volume
Run #1	34.6 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		36-173%
460-00-4	Bromofluorobenzene (S)	94%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

Client Sample ID:	P114-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-6	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V10797.D	1	08/22/12	AMY	n/a	n/a	MSV449
Run #2	N66954.D	1	08/23/12	JM	n/a	n/a	MSN2518

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone <sup>a</sup>	75.6	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND <sup>b</sup>	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P114-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-6	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B	Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.83	1.0	0.41	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.39	5.0	0.35	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P114-ROX-080912		<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-6		<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B		
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL		

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**VOA Special List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%	86%	70-130%
2037-26-5	Toluene-D8	98%	95%	70-130%
460-00-4	4-Bromofluorobenzene	97%	157% <sup>c</sup>	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

- (a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
- (b) Result is from Run# 2
- (c) Outside control limits. Results confirmed by reanalysis.

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ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P114-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-6	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W3917.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	P114-ROX-080912	Date Sampled:	08/09/12
Lab Sample ID:	MC13051-6	Date Received:	08/10/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C	Project: URMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

## ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	3.9	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	45%		15-110%
118-79-6	2,4,6-Tribromophenol	102%		15-110%
4165-60-0	Nitrobenzene-d5	86%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> P114-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-6	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C BY SIM SW846 3510C	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U9232.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.029	0.10	0.013	ug/l	J
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	85%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b> P114-ROX-080912	<b>Date Sampled:</b> 08/09/12
<b>Lab Sample ID:</b> MC13051-6	<b>Date Received:</b> 08/10/12
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8011 SW846 8011	
<b>Project:</b> URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK16066.D	1	08/16/12	AP	08/14/12	OP30032	GBK608
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

### VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		36-173%
460-00-4	Bromofluorobenzene (S)	97%		36-173%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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**Misc. Forms****Custody Documents and Other Forms**

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Includes the following where applicable:

- Chain of Custody
- REPROC Form: Reprocessed/Corrected Data
- Sample Tracking Chronicle
- Internal Chain of Custody

LAB (LOCATION)

- XENCO ( )
- CALSCEC ( )
- OTHER ( )
- SPL ( )



Shell Oil Products Chain Of Custody Record

URS

**Please Check Appropriate Box:**

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SOBCH	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: Erik Arthur

INCIDENT # (ENV SERVICES) 9 7 2 1 5 6 4 0

PO # SAP #

DATE: 8/19/12

PAGE: 1 of 1

LAB VENDOR #

LAB USE ONLY

URS CORPORATION

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

900 South Central Ave, ROXANA

ROXANA QUARTERLY GW / 21562735.00008

TELEPHONE: 314-265-1553 FAX: 314-429-0462

SALES REPRESENTATIVE: EDD

SALES REPRESENTATIVE PHONE: D. Mattingly, C. Williams

LAB USE ONLY: MC13051

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (10 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS

RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT  UST AGENCY:

TEMPERATURE ON RECEIPT °C: Cooler #1, Cooler #2, Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

FIELD NOTES:

TEMPERATURE ON RECEIPT °C

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	FIELD NOTES
		DATE	TIME		HCL	HNO3	MMSM	NONE	OTHER							
	1 TB-080912-HCL	8/19/12	00:00	water	2					2	X				0	
	2 TB-080912-ST		00:00						2	2	X					
	3 P93A-ROX-080912		10:10		2				2	2	X	X	X	X		
	4 P93B-ROX-080912		11:15		2				2	2	X	X	X	X		
	5 P93C-ROX-080912		12:40		2				2	2	X	X	X	X		
	5 <sup>5</sup> P93C-ROX-080912-MS		12:40		2				2	2	X	X	X	X		16D, 4N6
	5 <sup>5</sup> P93C-ROX-080912-MSD		12:40		2				2	2	X	X	X	X		
	6 P114-ROX-080912	✓	15:45	✓	2				2	2	X	X	X	X	✓	

Released by (Signature): [Signature]

Received by (Signature): [Signature]

DATE: 8/19/12 TIME: 1800

DATE: 8/10/12 TIME: 09:30

FED EX

REC 1-7,2,2

5.1  
5

MC13051: Chain of Custody  
Page 1 of 2

## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC13051      Client: URS      Immediate Client Services Action Required: No  
 Date / Time Received: 8/10/2012      Delivery Method: \_\_\_\_\_      Client Service Action Required at Login: No  
 Project: 900 SOUTH CENTRAL AVE      No. Coolers: 2      Airbill #'s: \_\_\_\_\_

**Cooler Security**      Y or N      Y or N  
 1. Custody Seals Present:        3. COC Present:    
 2. Custody Seals Intact:        4. Smpl Dates/Time OK:

**Cooler Temperature**      Y or N  
 1. Temp criteria achieved:    
 2. Cooler temp verification: Infrared gun  
 3. Cooler media: Ice (bag)

**Quality Control Preservation**      Y or N      N/A  
 1. Trip Blank present / cooler:     
 2. Trip Blank listed on COC:     
 3. Samples preserved properly:    
 4. VOCs headspace free:

**Sample Integrity - Documentation**      Y or N  
 1. Sample labels present on bottles:    
 2. Container labeling complete:    
 3. Sample container label / COC agree:

**Sample Integrity - Condition**      Y or N  
 1. Sample recvd within HT:    
 2. All containers accounted for:    
 3. Condition of sample: Intact

**Sample Integrity - Instructions**      Y or N      N/A  
 1. Analysis requested is clear:    
 2. Bottles received for unspecified tests:    
 3. Sufficient volume recvd for analysis:    
 4. Compositing instructions clear:     
 5. Filtering instructions clear:

Comments

Quantitation Report (QT/LSC Reviewed)

Data Path : O:\msv\1\databackup\v120822\  
 Data File : v10796.d  
 Acq On : 22 Aug 2012 6:47 pm  
 Operator : amym  
 Sample : mc13051-3  
 Misc : MS26654,MSV449,,,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

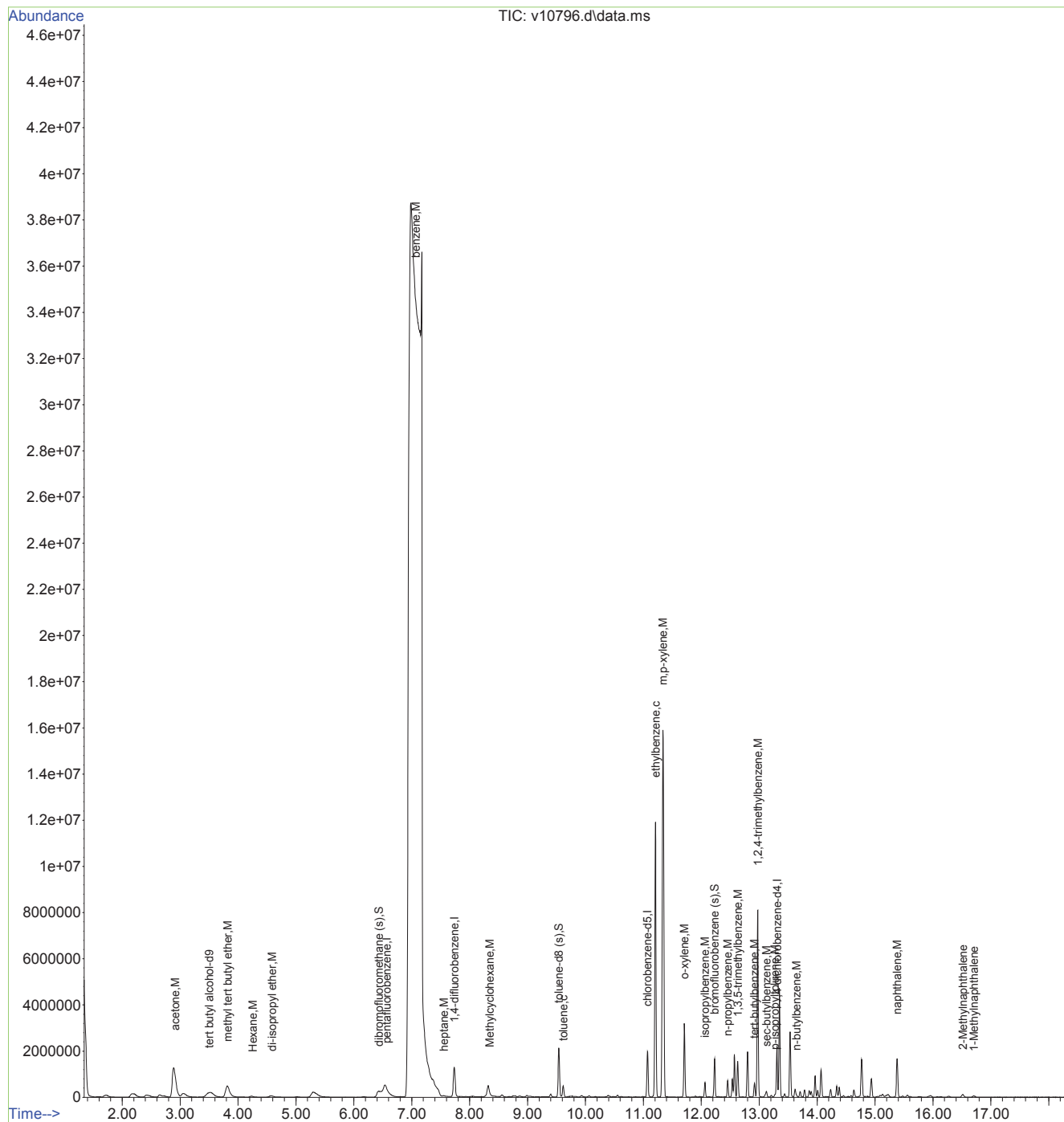
Quant Time: Mar 08 13:38:47 2016  
 Quant Method : C:\msdchem\1\METHODS\v120814w.m  
 Quant Title : SW-846 Method 8260  
 QLast Update : Wed Aug 15 10:27:16 2012  
 Response via : Initial Calibration

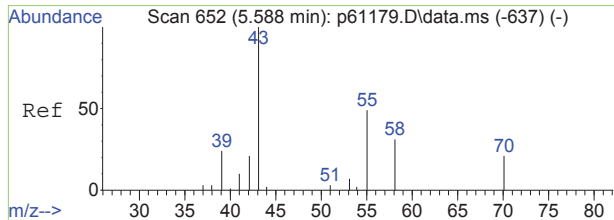
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) tert butyl alcohol-d9	3.502	65	136105	500.00	ug/L	#-0.02
4) pentafluorobenzene	6.565	168	593398	50.00	ug/L	0.02
43) 1,4-difluorobenzene	7.735	114	1164579	50.00	ug/L	0.00
66) chlorobenzene-d5	11.071	82	570723	50.00	ug/L	0.00
80) 1,4-dichlorobenzene-d4	13.306	152	473511	50.00	ug/L	0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	6.431	113	337321	47.54	ug/L	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	95.08%
60) toluene-d8 (s)	9.540	98	1340161	48.63	ug/L	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	97.26%
82) bromofluorobenzene (s)	12.228	95	484518	47.42	ug/L	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	94.84%
Target Compounds						
						Qvalue
16) acetone	2.914	43	3726923	1634.87	ug/L	92
19) methyl tert butyl ether	3.821	73	903571	48.50	ug/L	65
28) di-isopropyl ether	4.589	45	101196	4.01	ug/L	96
31) Hexane	4.256	41	37164	7.11	ug/L	98
47) benzene	7.071	78	140792357m	3879.09	ug/L	
50) heptane	7.554	43	19706	2.11	ug/L	78
55) Methylcyclohexane	8.345	83	351373	27.84	ug/L	97
62) toluene	9.616	92	194275	9.12	ug/L	100
74) ethylbenzene	11.207	91	7796861	224.88	ug/L	97
75) m,p-xylene	11.339	106	5371318	435.60	ug/L	94
76) o-xylene	11.708	106	747435	64.21	ug/L	97
81) isopropylbenzene	12.063	105	367825	12.58	ug/L	100
86) n-propylbenzene	12.456	91	498184	13.72	ug/L	98
89) 1,3,5-trimethylbenzene	12.628	105	745796	27.34	ug/L	99
90) tert-butylbenzene	12.918	91	188627	12.77	ug/L	89
91) 1,2,4-trimethylbenzene	12.974	105	4003460	144.76	ug/L	97
92) sec-butylbenzene	13.124	105	145274	4.78	ug/L	99
94) p-isopropyltoluene	13.270	119	52403	2.19	ug/L	94
97) n-butylbenzene	13.643	91	43091m	1.56	ug/L	
102) naphthalene	15.381	128	1302100	61.93	ug/L	100
104) 2-Methylnaphthalene	16.515	142	87974	11.17	ug/L	98
105) 1-Methylnaphthalene	16.706	142	42244	7.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : O:\msv\1\databackup\v120822\  
 Data File : v10796.d  
 Acq On : 22 Aug 2012 6:47 pm  
 Operator : amym  
 Sample : mc13051-3  
 Misc : MS26654,MSV449,,,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

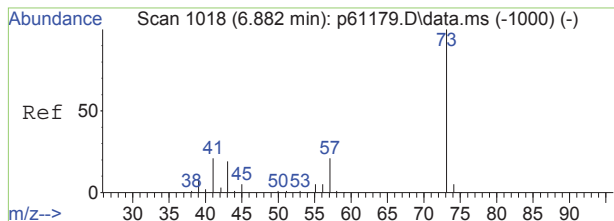
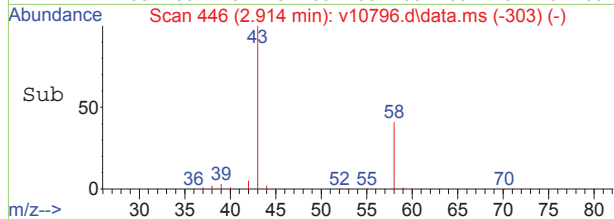
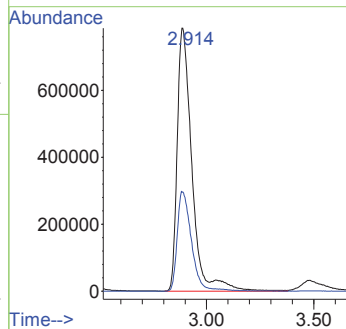
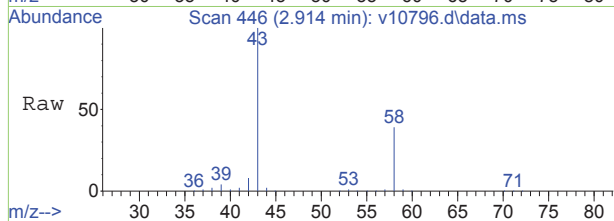
Quant Time: Mar 08 13:38:47 2016  
 Quant Method : C:\msdchem\1\METHODS\v120814w.m  
 Quant Title : SW-846 Method 8260  
 QLast Update : Wed Aug 15 10:27:16 2012  
 Response via : Initial Calibration





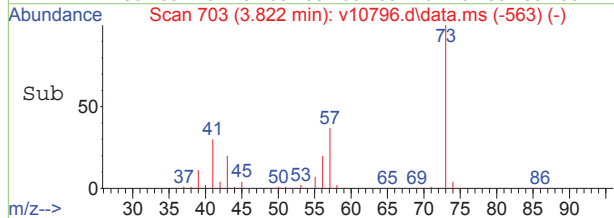
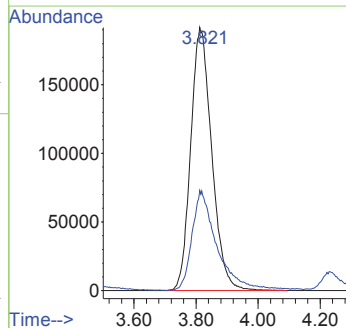
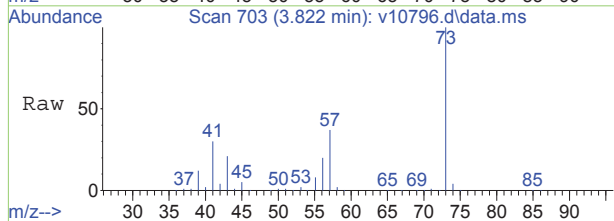
#16  
acetone  
Concen: 1634.87 ug/L  
RT: 2.914 min Scan# 446  
Delta R.T. 0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

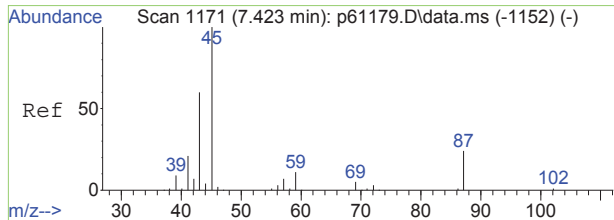
Tgt Ion	Resp	Lower	Upper
43	3726923	100	
58	38.7	4.3	64.3



#19  
methyl tert butyl ether  
Concen: 48.50 ug/L  
RT: 3.821 min Scan# 703  
Delta R.T. -0.005 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

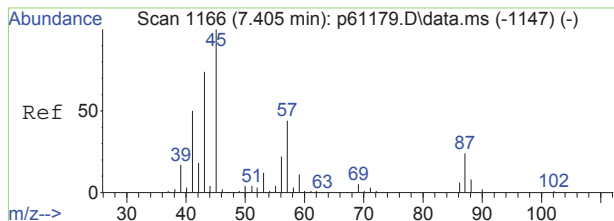
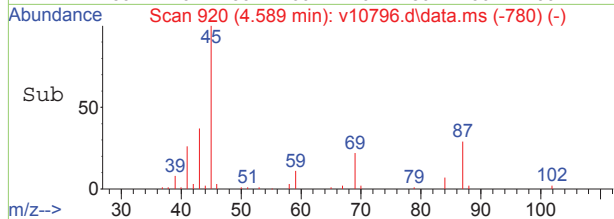
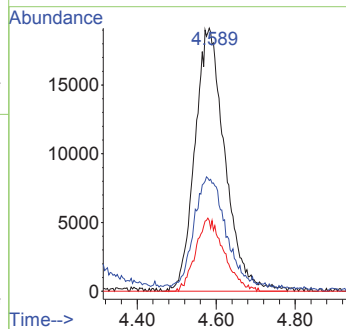
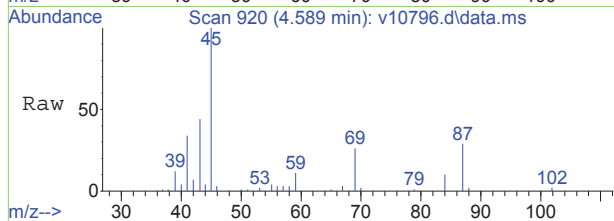
Tgt Ion	Resp	Lower	Upper
73	903571	100	
57	37.2	0.0	50.7





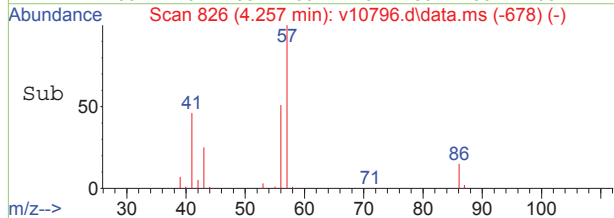
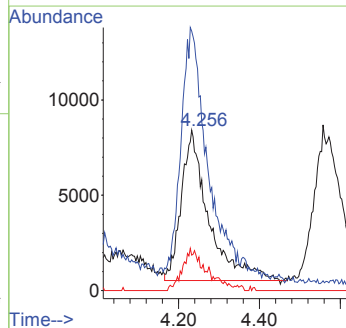
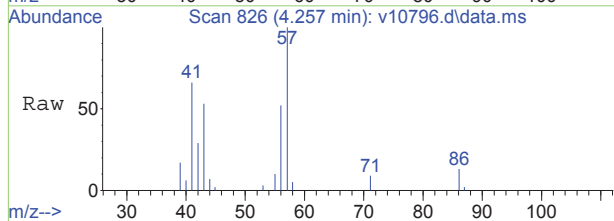
#28  
di-isopropyl ether  
Concen: 4.01 ug/L  
RT: 4.589 min Scan# 920  
Delta R.T. -0.004 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

Tgt Ion	Resp	Lower	Upper
45	101196		
43	42.1	15.0	75.0
87	28.7	0.3	60.3

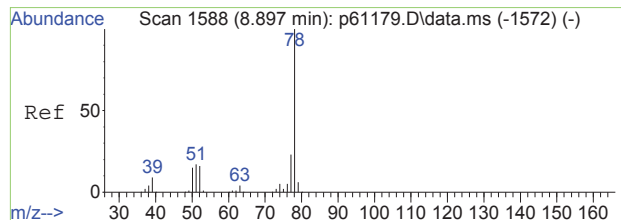


#31  
Hexane  
Concen: 7.11 ug/L  
RT: 4.256 min Scan# 826  
Delta R.T. 0.023 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

Tgt Ion	Resp	Lower	Upper
41	37164		
41	100		
57	155.8	124.1	186.1
86	22.2	20.9	31.3

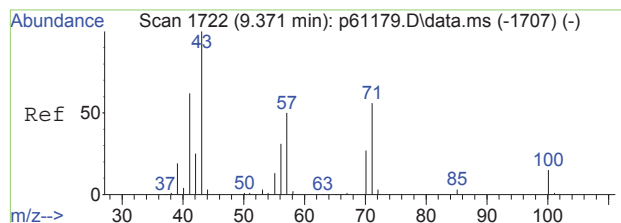
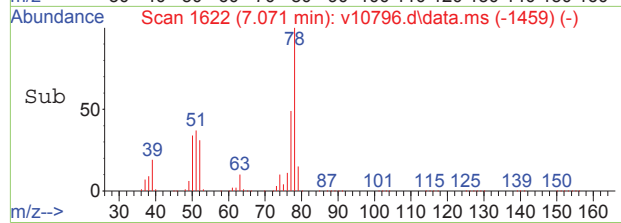
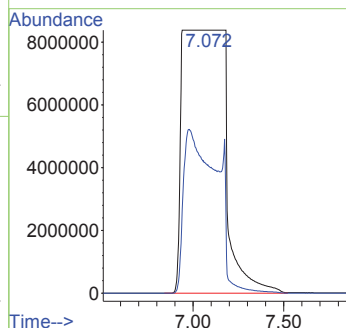
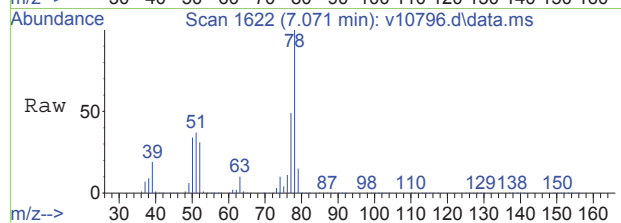






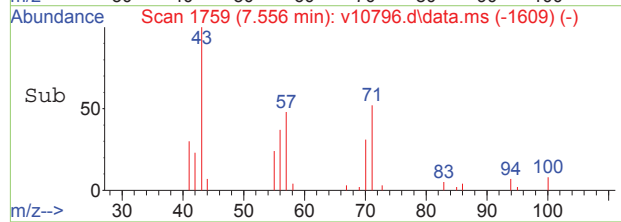
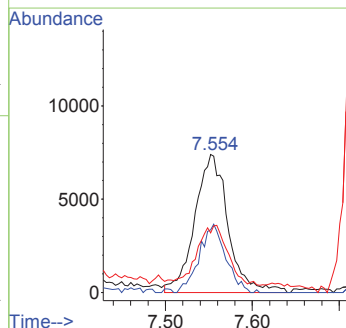
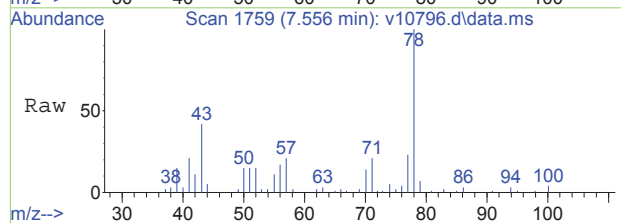
#47  
benzene  
Concen: 3879.09 ug/L m  
RT: 7.071 min Scan# 1622  
Delta R.T. 0.085 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

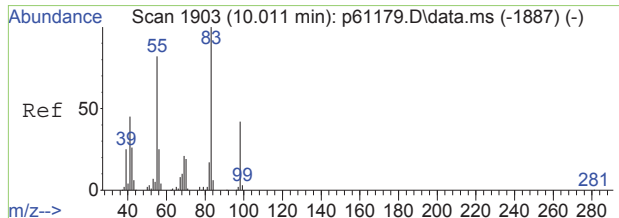
Tgt Ion: 78 Resp:140792357  
Ion Ratio Lower Upper  
78 100  
77 49.2 0.0 52.8



#50  
heptane  
Concen: 2.11 ug/L  
RT: 7.554 min Scan# 1759  
Delta R.T. 0.010 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

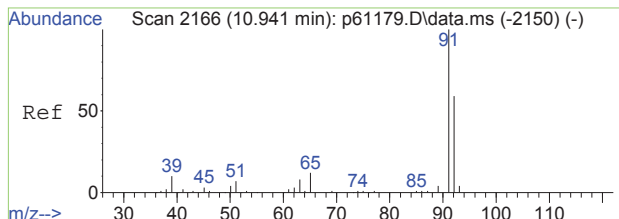
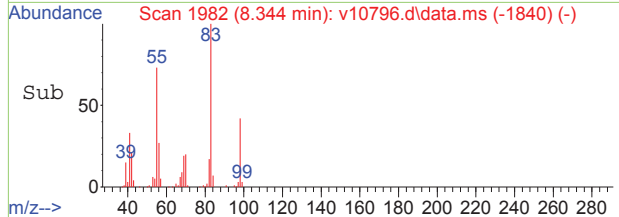
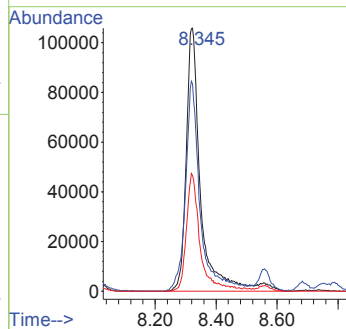
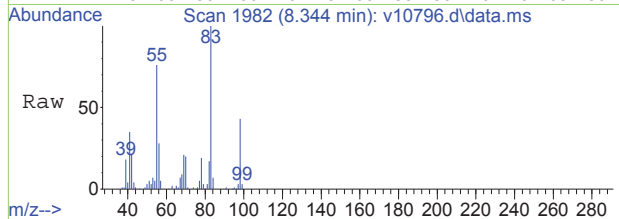
Tgt Ion: 43 Resp: 19706  
Ion Ratio Lower Upper  
43 100  
71 50.2 36.6 96.6  
57 42.7 30.1 90.1





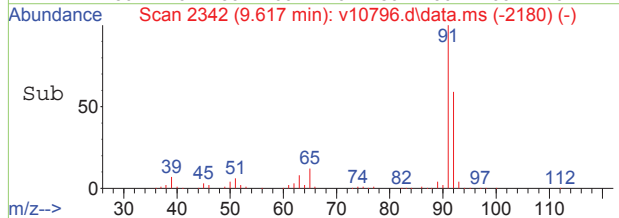
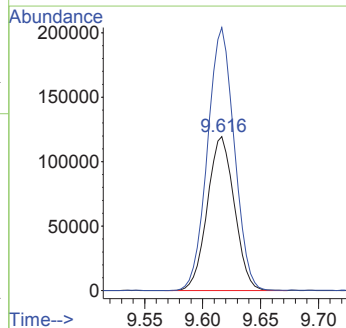
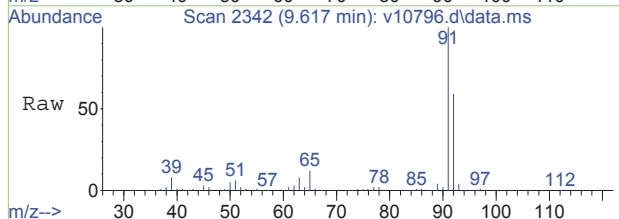
#55  
Methylcyclohexane  
Concen: 27.84 ug/L  
RT: 8.345 min Scan# 1982  
Delta R.T. 0.004 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

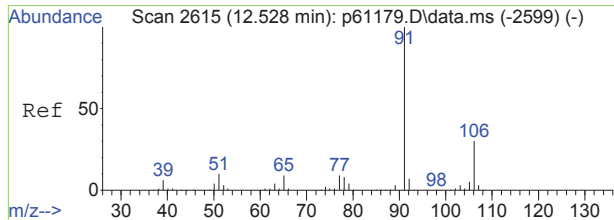
Tgt Ion	Resp	Lower	Upper
83	351373		
55	75.4	59.5	89.3
98	43.1	37.4	56.0



#62  
toluene  
Concen: 9.12 ug/L  
RT: 9.616 min Scan# 2342  
Delta R.T. -0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

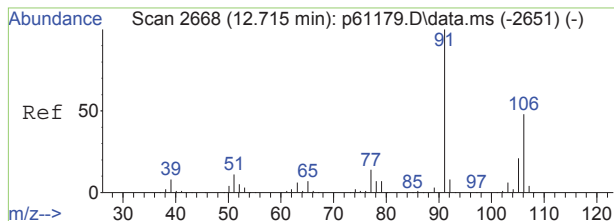
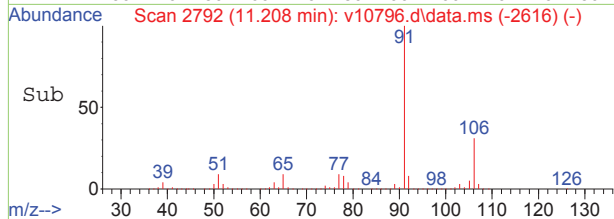
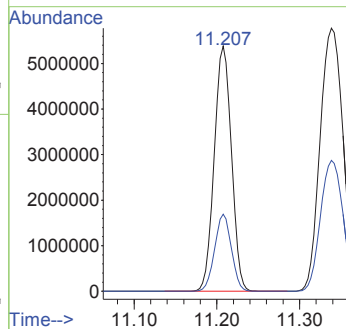
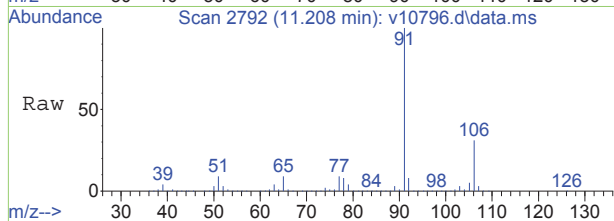
Tgt Ion	Resp	Lower	Upper
92	194275		
91	170.8	140.8	200.8





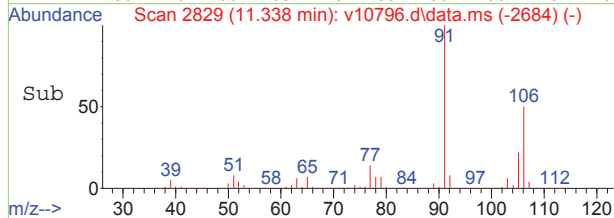
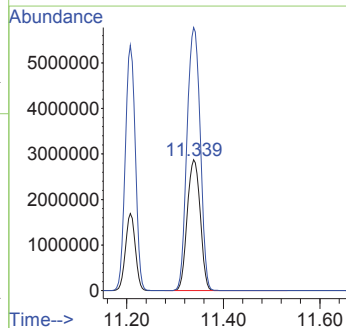
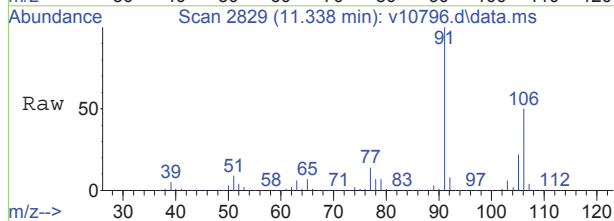
#74  
ethylbenzene  
Concen: 224.88 ug/L  
RT: 11.207 min Scan# 2792  
Delta R.T. -0.008 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

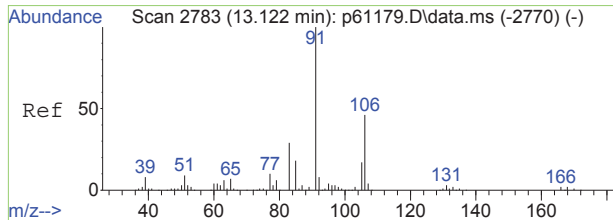
Tgt Ion: 91 Resp: 7796861  
Ion Ratio Lower Upper  
91 100  
106 31.4 0.0 59.7



#75  
m,p-xylene  
Concen: 435.60 ug/L  
RT: 11.339 min Scan# 2829  
Delta R.T. -0.008 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

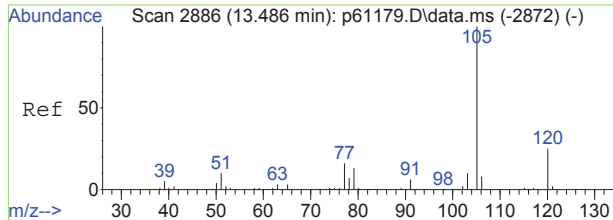
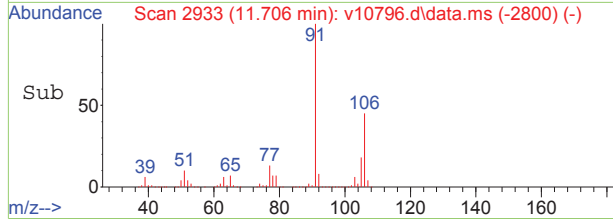
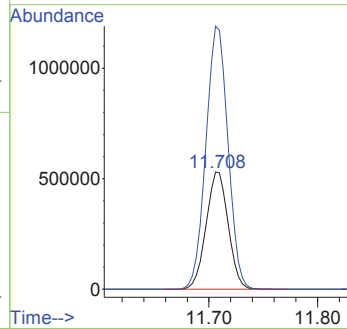
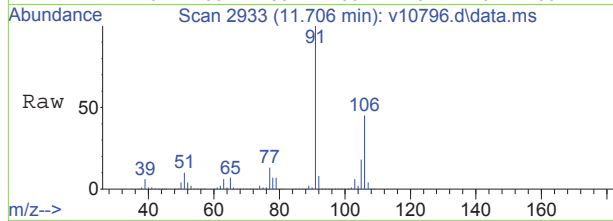
Tgt Ion: 106 Resp: 5371318  
Ion Ratio Lower Upper  
106 100  
91 201.3 180.1 240.1





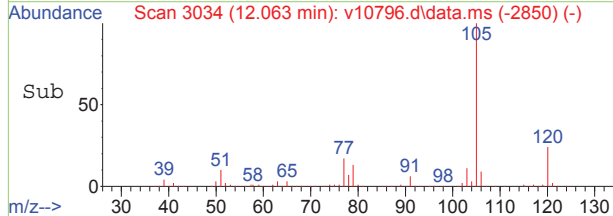
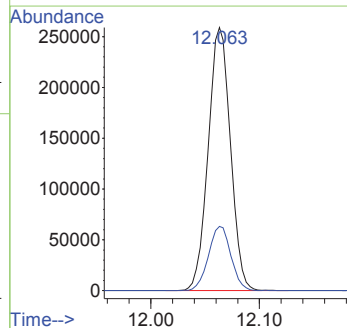
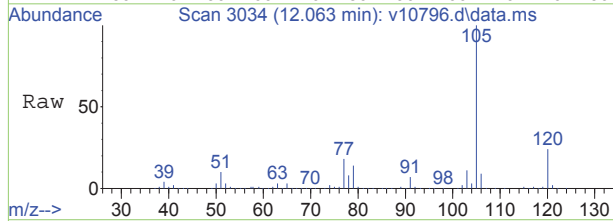
#76  
o-xylene  
Concen: 64.21 ug/L  
RT: 11.708 min Scan# 2933  
Delta R.T. -0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

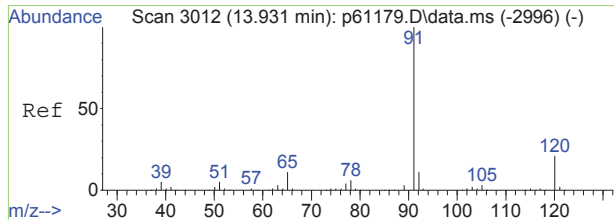
Tgt Ion	Ratio	Lower	Upper
106	100		
91	224.6	189.0	249.0



#81  
isopropylbenzene  
Concen: 12.58 ug/L  
RT: 12.063 min Scan# 3034  
Delta R.T. -0.008 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

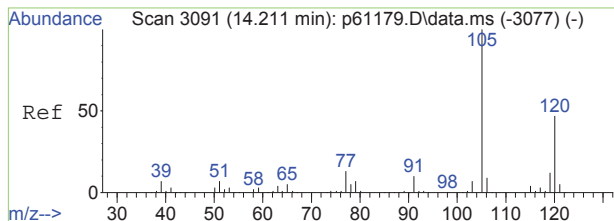
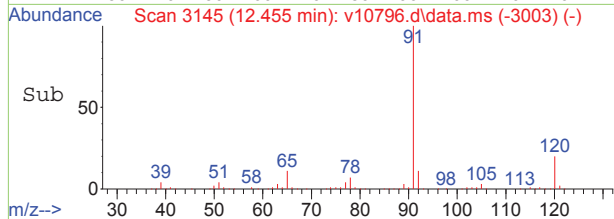
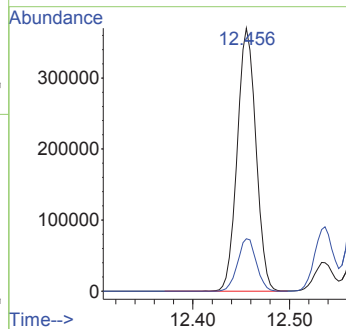
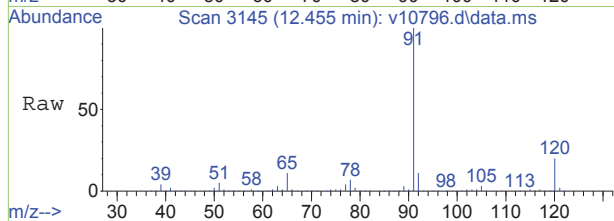
Tgt Ion	Ratio	Lower	Upper
105	100		
120	24.4	0.0	54.2





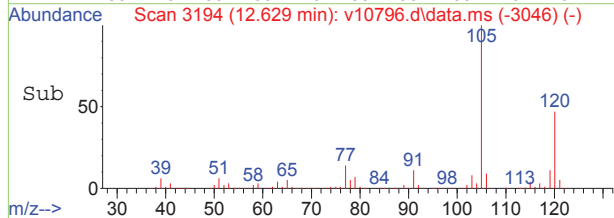
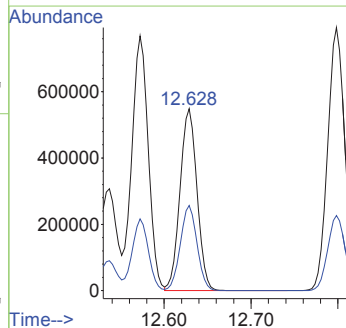
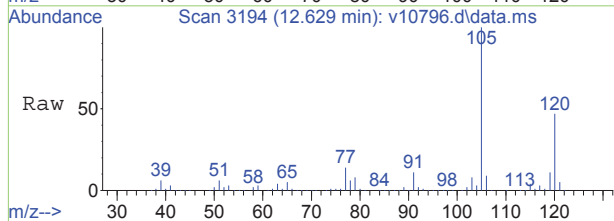
#86  
n-propylbenzene  
Concen: 13.72 ug/L  
RT: 12.456 min Scan# 3145  
Delta R.T. -0.009 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

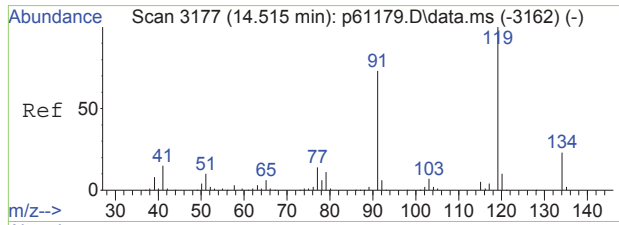
Tgt Ion	Resp	Ion Ratio	Lower	Upper
91	498184	100		
120	20.0	20.0	0.0	51.1



#89  
1,3,5-trimethylbenzene  
Concen: 27.34 ug/L  
RT: 12.628 min Scan# 3194  
Delta R.T. -0.008 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

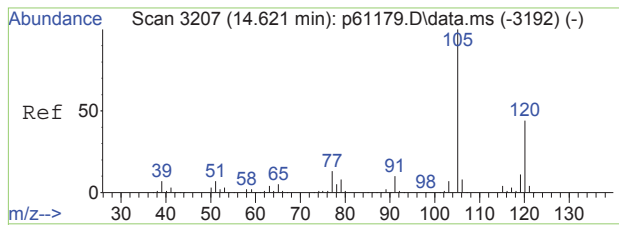
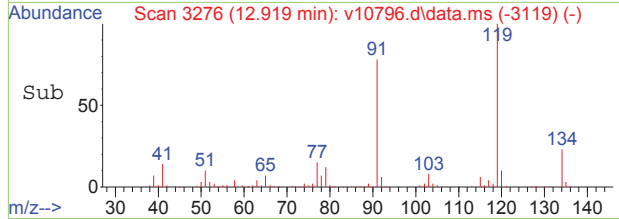
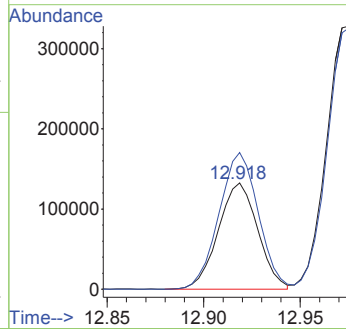
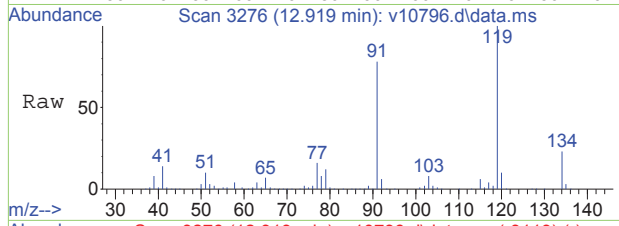
Tgt Ion	Resp	Ion Ratio	Lower	Upper
105	745796	100		
120	46.8	46.8	16.4	76.4





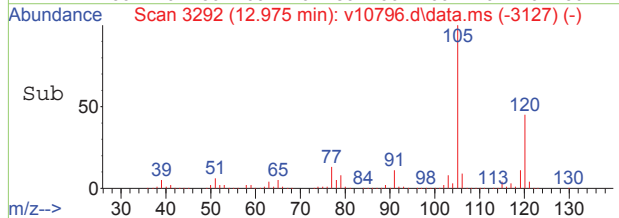
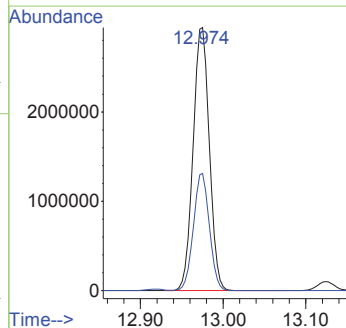
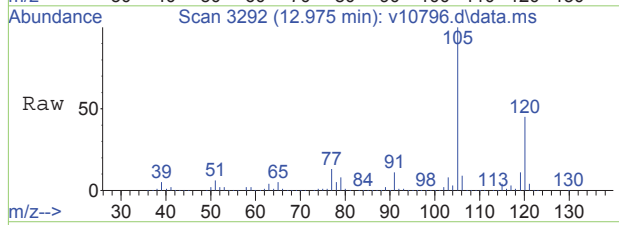
#90  
tert-butylbenzene  
Concen: 12.77 ug/L  
RT: 12.918 min Scan# 3276  
Delta R.T. -0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

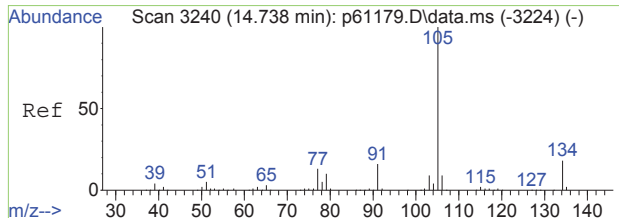
Tgt Ion: 91 Resp: 188627  
Ion Ratio Lower Upper  
91 100  
119 128.8 112.6 172.6



#91  
1,2,4-trimethylbenzene  
Concen: 144.76 ug/L  
RT: 12.974 min Scan# 3292  
Delta R.T. -0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

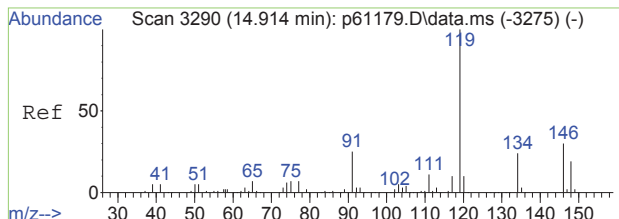
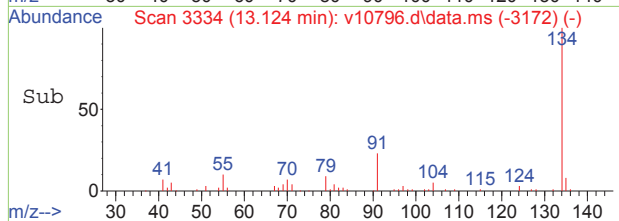
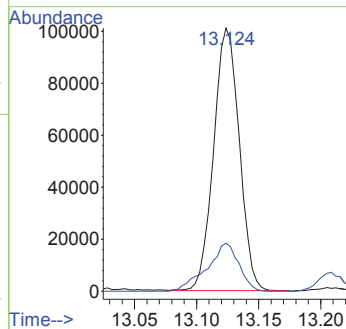
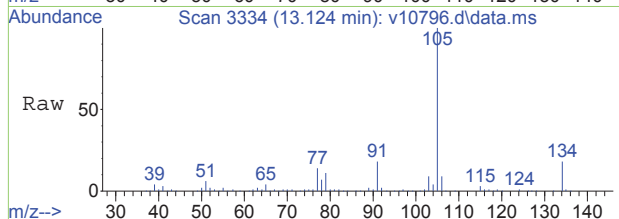
Tgt Ion: 105 Resp: 4003460  
Ion Ratio Lower Upper  
105 100  
120 44.5 12.6 72.6





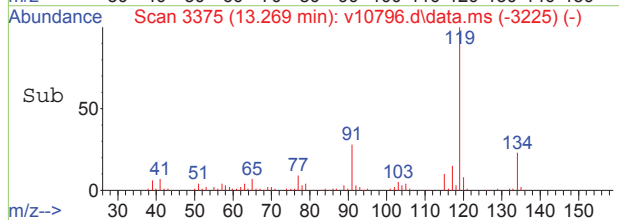
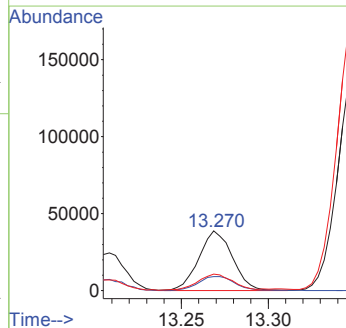
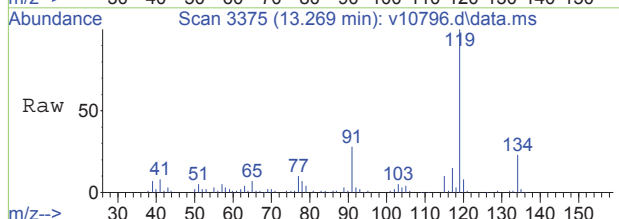
#92  
 sec-butylbenzene  
 Concen: 4.78 ug/L  
 RT: 13.124 min Scan# 3334  
 Delta R.T. -0.008 min  
 Lab File: v10796.d  
 Acq: 22 Aug 2012 6:47 pm

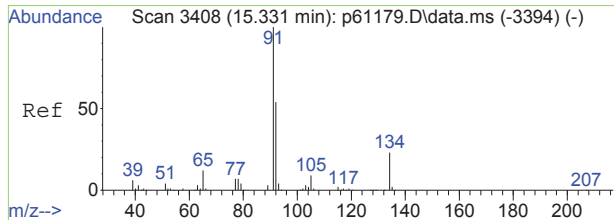
Tgt Ion	Resp	Lower	Upper
105	145274		
134	18.3	0.0	48.6



#94  
 p-isopropyltoluene  
 Concen: 2.19 ug/L  
 RT: 13.270 min Scan# 3375  
 Delta R.T. -0.007 min  
 Lab File: v10796.d  
 Acq: 22 Aug 2012 6:47 pm

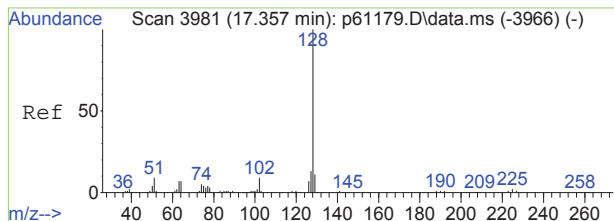
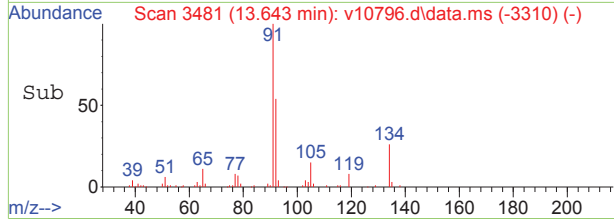
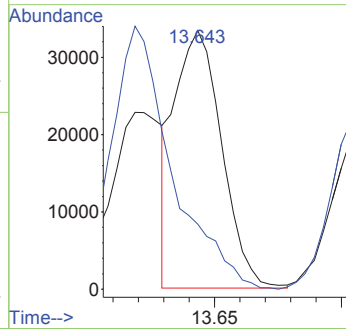
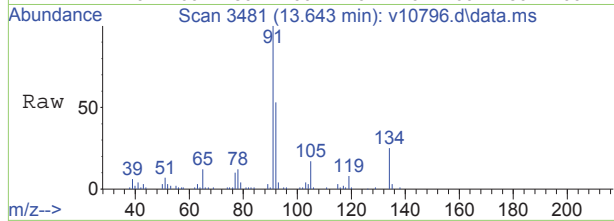
Tgt Ion	Resp	Lower	Upper
119	52403		
134	23.4	0.0	56.1
91	26.9	0.0	54.0





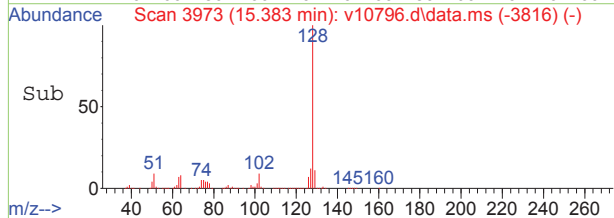
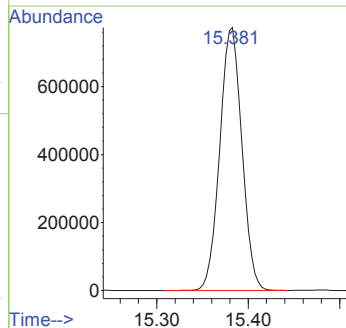
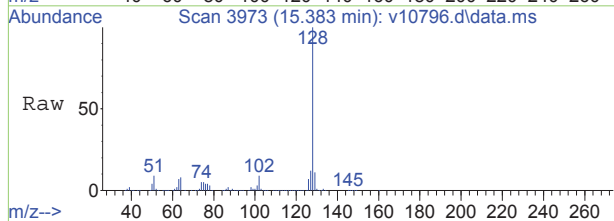
#97  
n-butylbenzene  
Concen: 1.56 ug/L m  
RT: 13.643 min Scan# 3481  
Delta R.T. -0.007 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

Tgt Ion	Resp	Lower	Upper
91	43091	100	
134	25.1	0.0	53.1

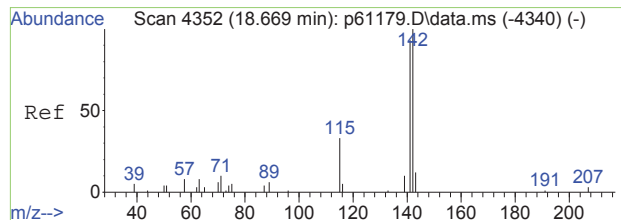


#102  
naphthalene  
Concen: 61.93 ug/L  
RT: 15.381 min Scan# 3973  
Delta R.T. -0.006 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

Tgt Ion: 128 Resp: 1302100

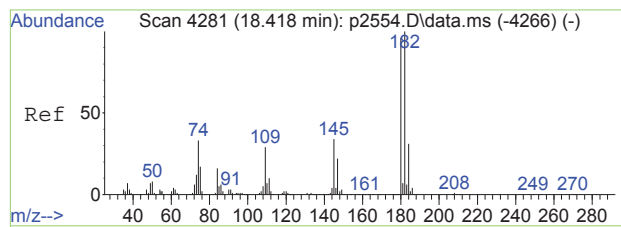
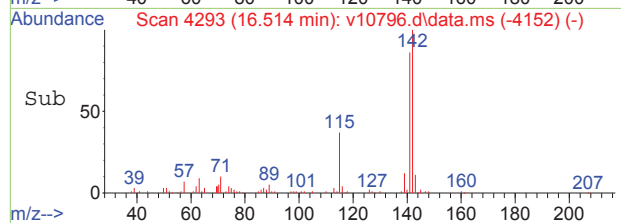
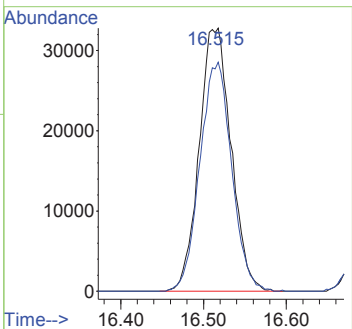
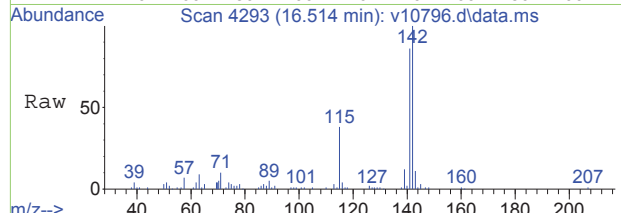






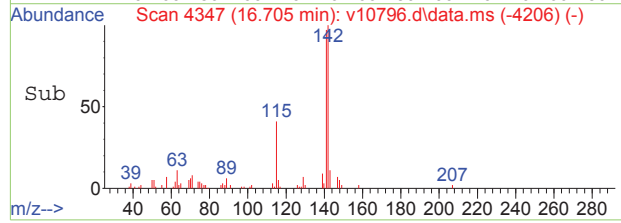
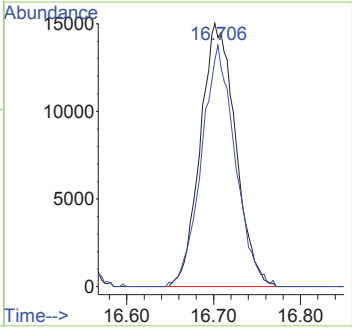
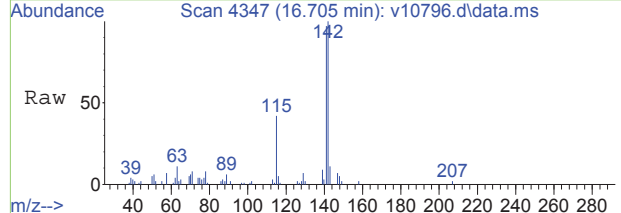
#104  
2-Methylnaphthalene  
Concen: 11.17 ug/L  
RT: 16.515 min Scan# 4293  
Delta R.T. -0.001 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

Tgt Ion	Ratio	Lower	Upper
142	100		
141	86.7	64.6	104.6



#105  
1-Methylnaphthalene  
Concen: 7.23 ug/L  
RT: 16.706 min Scan# 4347  
Delta R.T. -0.001 min  
Lab File: v10796.d  
Acq: 22 Aug 2012 6:47 pm

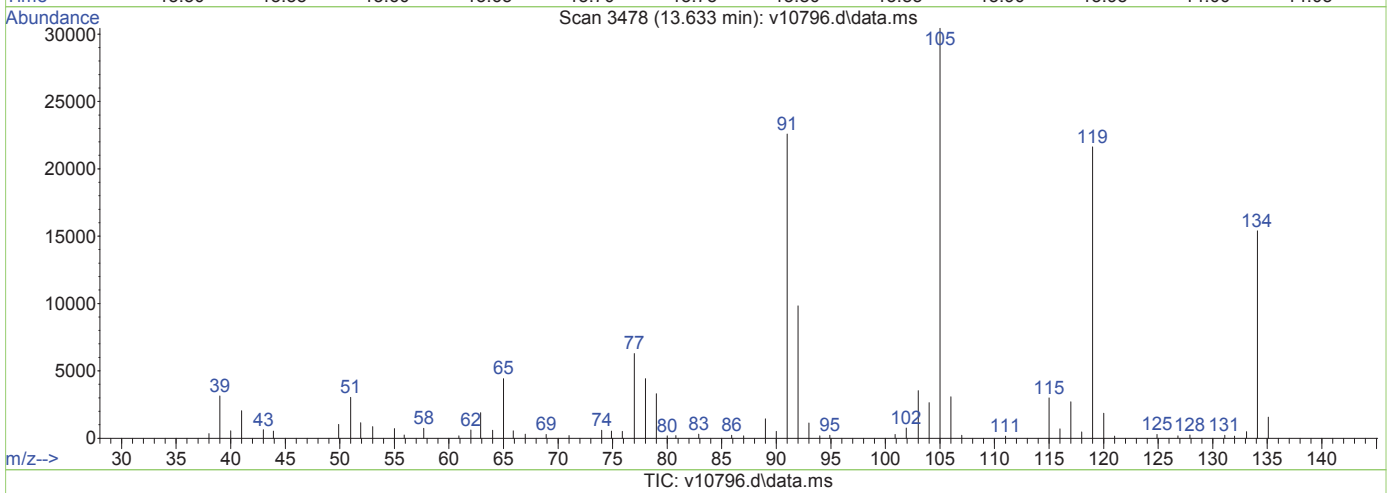
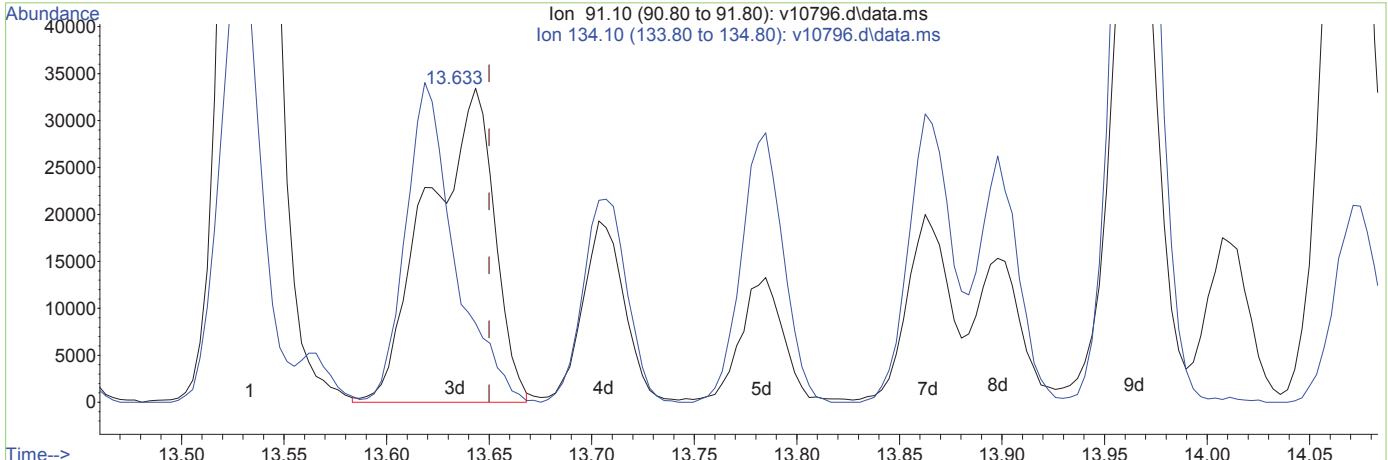
Tgt Ion	Ratio	Lower	Upper
142	100		
141	87.7	67.1	107.1



Quantitation Report (Qedit)

Data Path : O:\msv\1\datbackup\v120822\  
 Data File : v10796.d  
 Acq On : 22 Aug 2012 6:47 pm  
 Operator : amym  
 Sample : mc13051-3  
 Misc : MS26654,MSV449,,,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 23 14:12:14 2012  
 Quant Method : C:\msdchem\1\METHODS\v120814w.m  
 Quant Title : SW-846 Method 8260  
 QLast Update : Wed Aug 15 10:27:16 2012  
 Response via : Initial Calibration



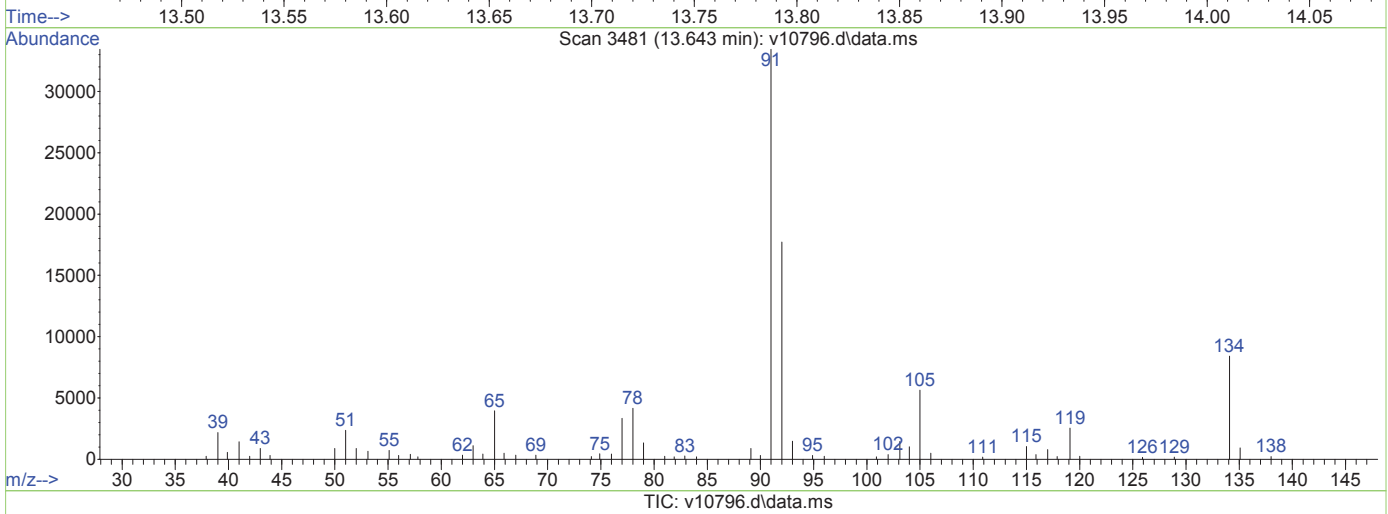
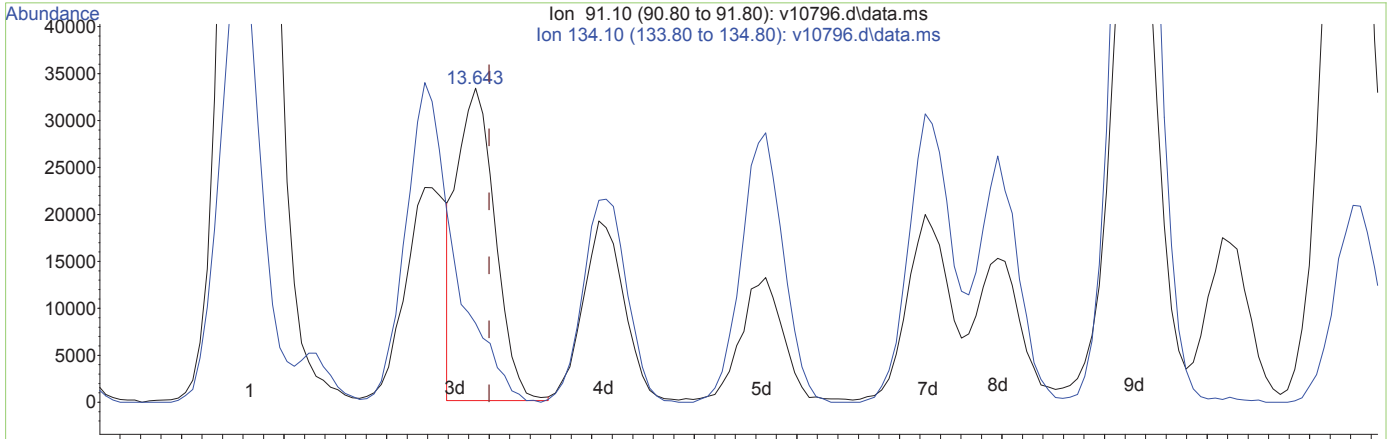
(97) n-butylbenzene (M)  
 13.633min (-0.017) 2.73ug/L m  
 response 75410

Ion	Exp%	Act%
91.10	100	100
134.10	23.10	68.11#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : O:\msv\1\datbackup\v120822\  
 Data File : v10796.d  
 Acq On : 22 Aug 2012 6:47 pm  
 Operator : amym  
 Sample : mc13051-3  
 Misc : MS26654,MSV449,,,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 23 14:12:14 2012  
 Quant Method : C:\msdchem\1\METHODS\v120814w.m  
 Quant Title : SW-846 Method 8260  
 QLast Update : Wed Aug 15 10:27:16 2012  
 Response via : Initial Calibration



(97) n-butylbenzene (M)  
 13.643min (-0.007) 1.56ug/L m  
 response 43091

Ion	Exp%	Act%
91.10	100	100
134.10	23.10	25.14
0.00	0.00	0.00
0.00	0.00	0.00

## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC13051

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.3  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC13051-1 Collected: 09-AUG-12 00:00 By: DMCW Received: 10-AUG-12 By: TB-080912-HCL						
MC13051-1	SW846 8260B	22-AUG-12 15:50	AMY			V8260SL +
MC13051-2 Collected: 09-AUG-12 00:00 By: DMCW Received: 10-AUG-12 By: TB-080912-ST						
MC13051-2	SW846 8011	15-AUG-12 22:33	AP	14-AUG-12 MT		V8011SL
MC13051-3 Collected: 09-AUG-12 10:10 By: DMCW Received: 10-AUG-12 By: P93A-ROX-080912						
MC13051-3	SW846 8270C	14-AUG-12 14:40	KR	12-AUG-12 FC		AB8270SL +
MC13051-3	SW846 8270C BY SIM	15-AUG-12 14:17	NS	12-AUG-12 FC		B8270SIMP AH
MC13051-3	SW846 8011	15-AUG-12 22:57	AP	14-AUG-12 MT		V8011SL
MC13051-3	SW846 8260B	22-AUG-12 18:47	AMY			V8260SL +
MC13051-3	SW846 8260B	23-AUG-12 10:04	JM			V8260SL +
MC13051-3	SW846 8270C	23-AUG-12 16:41	KR	12-AUG-12 FC		AB8270SL +
MC13051-4 Collected: 09-AUG-12 11:15 By: DMCW Received: 10-AUG-12 By: P93B-ROX-080912						
MC13051-4	SW846 8270C	14-AUG-12 15:03	KR	12-AUG-12 FC		AB8270SL +
MC13051-4	SW846 8270C BY SIM	15-AUG-12 14:40	NS	12-AUG-12 FC		B8270SIMP AH
MC13051-4	SW846 8011	15-AUG-12 23:21	AP	14-AUG-12 MT		V8011SL
MC13051-4	SW846 8260B	22-AUG-12 19:46	AMY			V8260SL +
MC13051-4	SW846 8260B	23-AUG-12 10:32	JM			V8260SL +
MC13051-4	SW846 8270C	23-AUG-12 17:03	KR	12-AUG-12 FC		AB8270SL +
MC13051-5 Collected: 09-AUG-12 12:40 By: DMCW Received: 10-AUG-12 By: P93C-ROX-080912						
MC13051-5	SW846 8270C	14-AUG-12 14:18	KR	12-AUG-12 FC		AB8270SL +
MC13051-5	SW846 8270C BY SIM	15-AUG-12 13:54	NS	12-AUG-12 FC		B8270SIMP AH
MC13051-5	SW846 8011	15-AUG-12 23:45	AP	14-AUG-12 MT		V8011SL
MC13051-5	SW846 8260B	22-AUG-12 16:20	AMY			V8260SL +

## Internal Sample Tracking Chronicle

Shell Oil

Job No: MC13051

URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

5.3  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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MC13051-6 Collected: 09-AUG-12 15:45 By: DMCW Received: 10-AUG-12 By: P114-ROX-080912

MC13051-6 SW846 8270C	14-AUG-12 15:25	KR	12-AUG-12 FC	AB8270SL +
MC13051-6 SW846 8270C BY SIM	15-AUG-12 15:03	NS	12-AUG-12 FC	B8270SIMP AH
MC13051-6 SW846 8011	16-AUG-12 00:09	AP	14-AUG-12 MT	V8011SL
MC13051-6 SW846 8260B	22-AUG-12 19:16	AMY		V8260SL +
MC13051-6 SW846 8260B	23-AUG-12 09:36	JM		V8260SL +

# SGS Accutest Internal Chain of Custody

**Job Number:** MC13051  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/10/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC13051-1.2	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-1.2	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-1.2	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-1.2	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-1.2	Scott Parsick		10/23/12 13:15	Disposed
MC13051-2.2	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-2.2	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-3.1	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage
MC13051-3.1	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-3.3	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-3.3	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-3.5	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-3.5	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-3.5	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-3.5	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-3.5	Scott Parsick		10/23/12 13:15	Disposed
MC13051-3.6	VOC Ref #4	Jaime Maslowski	08/23/12 08:26	Retrieve from Storage
MC13051-3.6	Jaime Maslowski	GCMSN	08/23/12 08:26	Load on Instrument
MC13051-3.6	GCMSN	Jaime Maslowski	08/23/12 16:02	Unload from Instrument
MC13051-3.6	Jaime Maslowski	VOC Ref #4	08/23/12 16:03	Return to Storage
MC13051-3.6	Scott Parsick		10/23/12 13:15	Disposed
MC13051-4.1	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage
MC13051-4.1	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-4.3	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-4.3	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-4.5	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-4.5	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-4.5	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-4.5	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-4.5	Scott Parsick		10/23/12 13:15	Disposed
MC13051-4.6	VOC Ref #4	Jaime Maslowski	08/23/12 08:26	Retrieve from Storage
MC13051-4.6	Jaime Maslowski	GCMSN	08/23/12 08:26	Load on Instrument
MC13051-4.6	GCMSN	Jaime Maslowski	08/23/12 16:02	Unload from Instrument
MC13051-4.6	Jaime Maslowski	VOC Ref #4	08/23/12 16:03	Return to Storage
MC13051-4.6	Scott Parsick		10/23/12 13:15	Disposed

5.4  
5

# SGS Accutest Internal Chain of Custody

**Job Number:** MC13051  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/10/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC13051-5.1	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage
MC13051-5.1	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-5.3	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage
MC13051-5.3	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-5.4	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage
MC13051-5.4	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-5.7	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-5.7	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-5.8	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-5.8	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-5.9	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-5.9	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-5.13	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-5.13	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-5.13	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-5.13	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-5.13	Scott Parsick		10/23/12 13:15	Disposed
MC13051-5.14	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-5.14	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-5.14	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-5.14	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-5.14	Scott Parsick		10/23/12 13:15	Disposed
MC13051-5.15	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-5.15	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-5.15	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-5.15	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-5.15	Scott Parsick		10/23/12 13:15	Disposed
MC13051-5.16	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-5.16	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-5.16	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-5.16	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-5.16	Scott Parsick		10/23/12 13:15	Disposed
MC13051-6.1	Walk In Ref #22	Amirhossein Farvardin	08/12/12 09:40	Retrieve from Storage

# SGS Accutest Internal Chain of Custody

**Job Number:** MC13051  
**Account:** SHELLWIC Shell Oil  
**Project:** URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL  
**Received:** 08/10/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC13051-6.1	Amirhossein Farvardin		08/17/12 17:32	Depleted
MC13051-6.3	VOC Ref #4	Nick Krasinski	08/14/12 14:49	Retrieve from Storage
MC13051-6.3	Nick Krasinski		08/16/12 21:49	Depleted
MC13051-6.4	VOC Ref #4	Jaime Maslowski	08/23/12 08:26	Retrieve from Storage
MC13051-6.4	Jaime Maslowski	GCMSN	08/23/12 08:26	Load on Instrument
MC13051-6.4	GCMSN	Jaime Maslowski	08/23/12 16:02	Unload from Instrument
MC13051-6.4	Jaime Maslowski	VOC Ref #4	08/23/12 16:03	Return to Storage
MC13051-6.4	Scott Parsick		10/23/12 13:15	Disposed
MC13051-6.5	VOC Ref #4	Amy Min Yang	08/22/12 15:02	Retrieve from Storage
MC13051-6.5	Amy Min Yang	GCMSV	08/22/12 15:02	Load on Instrument
MC13051-6.5	GCMSV	Amy Min Yang	08/26/12 09:45	Unload from Instrument
MC13051-6.5	Amy Min Yang	VOC Ref #4	08/26/12 09:45	Return to Storage
MC13051-6.5	Scott Parsick		10/23/12 13:15	Disposed

5.4

5



**GC/MS Volatiles**

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**QC Data Summaries**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-MB	V10789.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.78	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.4	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.68	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-MB	V10789.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	ND	1.0	0.51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	1.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	ND	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.58	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-MB	V10789.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 70-130%
2037-26-5	Toluene-D8	98% 70-130%
460-00-4	4-Bromofluorobenzene	99% 70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1  
6

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2518-MB	N66943.D	1	08/23/12	JM	n/a	n/a	MSN2518

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-3, MC13051-4, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

6.1.2  
6

# Blank Spike Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-BS	V10787.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	36.3	73	70-130
107-02-8	Acrolein	250	212	85	70-130
107-13-1	Acrylonitrile	50	246	492* a	70-130
71-43-2	Benzene	50	48.9	98	70-130
108-86-1	Bromobenzene	50	56.3	113	70-130
74-97-5	Bromochloromethane	50	49.4	99	70-130
75-27-4	Bromodichloromethane	50	48.5	97	70-130
75-25-2	Bromoform	50	47.1	94	70-130
74-83-9	Bromomethane	50	66.8	134* b	70-130
78-93-3	2-Butanone (MEK)	50	41.6	83	70-130
104-51-8	n-Butylbenzene	50	58.5	117	70-130
135-98-8	sec-Butylbenzene	50	61.1	122	70-130
98-06-6	tert-Butylbenzene	50	59.5	119	70-130
75-15-0	Carbon disulfide	50	76.8	154* b	70-130
56-23-5	Carbon tetrachloride	50	49.1	98	70-130
108-90-7	Chlorobenzene	50	57.3	115	70-130
75-00-3	Chloroethane	50	61.6	123	70-130
110-75-8	2-Chloroethyl vinyl ether	50	46.3	93	70-130
67-66-3	Chloroform	50	50.7	101	70-130
74-87-3	Chloromethane	50	64.8	130	70-130
95-49-8	o-Chlorotoluene	50	56.0	112	70-130
106-43-4	p-Chlorotoluene	50	57.1	114	70-130
124-48-1	Dibromochloromethane	50	46.0	92	70-130
95-50-1	1,2-Dichlorobenzene	50	57.9	116	70-130
541-73-1	1,3-Dichlorobenzene	50	58.0	116	70-130
106-46-7	1,4-Dichlorobenzene	50	53.0	106	70-130
75-71-8	Dichlorodifluoromethane	50	109	218* a	70-130
75-34-3	1,1-Dichloroethane	50	48.8	98	70-130
107-06-2	1,2-Dichloroethane	50	46.0	92	70-130
75-35-4	1,1-Dichloroethene	50	58.8	118	70-130
156-59-2	cis-1,2-Dichloroethene	50	49.8	100	70-130
156-60-5	trans-1,2-Dichloroethene	50	51.5	103	70-130
78-87-5	1,2-Dichloropropane	50	48.6	97	70-130
142-28-9	1,3-Dichloropropane	50	49.5	99	70-130
594-20-7	2,2-Dichloropropane	50	53.0	106	70-130
563-58-6	1,1-Dichloropropene	50	53.9	108	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-BS	V10787.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	42.1	84	70-130
10061-02-6	trans-1,3-Dichloropropene	50	41.7	83	70-130
123-91-1	1,4-Dioxane	250	207	83	70-130
97-63-2	Ethyl methacrylate	50	41.9	84	77-137
100-41-4	Ethylbenzene	50	55.6	111	70-130
87-68-3	Hexachlorobutadiene	50	55.8	112	70-130
591-78-6	2-Hexanone	50	41.1	82	70-130
98-82-8	Isopropylbenzene	50	60.0	120	70-130
99-87-6	p-Isopropyltoluene	50	58.7	117	70-130
1634-04-4	Methyl Tert Butyl Ether	50	46.0	92	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	39.0	78	70-130
74-95-3	Methylene bromide	50	51.3	103	70-130
75-09-2	Methylene chloride	50	49.0	98	70-130
103-65-1	n-Propylbenzene	50	60.4	121	70-130
100-42-5	Styrene	50	55.8	112	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	49.3	99	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.1	92	70-130
127-18-4	Tetrachloroethene	50	54.7	109	70-130
108-88-3	Toluene	50	50.2	100	70-130
87-61-6	1,2,3-Trichlorobenzene	50	55.3	111	70-130
120-82-1	1,2,4-Trichlorobenzene	50	56.3	113	70-130
71-55-6	1,1,1-Trichloroethane	50	52.0	104	70-130
79-00-5	1,1,2-Trichloroethane	50	48.6	97	70-130
79-01-6	Trichloroethene	50	51.0	102	70-130
75-69-4	Trichlorofluoromethane	50	63.6	127	70-130
96-18-4	1,2,3-Trichloropropane	50	38.2	76	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.1	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	53.7	107	70-130
108-05-4	Vinyl Acetate	50	44.7	89	70-130
75-01-4	Vinyl chloride	50	58.0	116	70-130
	m,p-Xylene	100	111	111	70-130
95-47-6	o-Xylene	50	57.9	116	70-130
1330-20-7	Xylene (total)	150	169	113	70-130

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC13051  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV449-BS	V10787.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	99%	70-130%

- (a) Outside control limits. Associated samples are non-detect for this compound.
- (b) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.



# Blank Spike Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2518-BS	N66941.D	1	08/23/12	JM	n/a	n/a	MSN2518

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-3, MC13051-4, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	49.0	98	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	92%	70-130%
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13051-5MS	V10809.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5MSD	V10810.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5	V10791.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	5.6	50	28.4	46* a	50	27.8	44* a	2	70-130/30
107-02-8	Acrolein	ND	250	173	69* a	250	170	68* a	2	70-130/30
107-13-1	Acrylonitrile	ND	50	202	404* b	50	206	412* b	2	70-130/30
71-43-2	Benzene	0.84	50	49.7	98	50	50.2	99	1	70-130/30
108-86-1	Bromobenzene	ND	50	56.3	113	50	56.8	114	1	70-130/30
74-97-5	Bromochloromethane	ND	50	45.9	92	50	46.4	93	1	70-130/30
75-27-4	Bromodichloromethane	ND	50	42.9	86	50	44.8	90	4	70-130/30
75-25-2	Bromoform	ND	50	44.6	89	50	46.3	93	4	70-130/30
74-83-9	Bromomethane	ND	50	54.5	109	50	53.5	107	2	70-130/30
78-93-3	2-Butanone (MEK)	ND	50	34.9	70	50	34.6	69* a	1	70-130/30
104-51-8	n-Butylbenzene	ND	50	52.7	105	50	53.3	107	1	70-130/30
135-98-8	sec-Butylbenzene	ND	50	57.7	115	50	58.9	118	2	70-130/30
98-06-6	tert-Butylbenzene	ND	50	55.3	111	50	56.5	113	2	70-130/30
75-15-0	Carbon disulfide	ND	50	61.5	123	50	66.4	133* a	8	70-130/30
56-23-5	Carbon tetrachloride	ND	50	44.4	89	50	47.3	95	6	70-130/30
108-90-7	Chlorobenzene	ND	50	59.2	118	50	60.0	120	1	70-130/30
75-00-3	Chloroethane	ND	50	46.7	93	50	45.5	91	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	50	ND	0* a	50	ND	0* a	nc	70-130/30
67-66-3	Chloroform	ND	50	44.0	88	50	44.8	90	2	70-130/30
74-87-3	Chloromethane	ND	50	49.5	99	50	49.2	98	1	70-130/30
95-49-8	o-Chlorotoluene	ND	50	52.3	105	50	52.8	106	1	70-130/30
106-43-4	p-Chlorotoluene	ND	50	53.3	107	50	53.9	108	1	70-130/30
124-48-1	Dibromochloromethane	ND	50	42.8	86	50	44.7	89	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND	50	56.4	113	50	57.4	115	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND	50	57.2	114	50	58.1	116	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND	50	52.6	105	50	52.8	106	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND	50	89.4	179* a	50	89.7	179* a	0	70-130/30
75-34-3	1,1-Dichloroethane	ND	50	41.9	84	50	42.6	85	2	70-130/30
107-06-2	1,2-Dichloroethane	ND	50	41.4	83	50	42.0	84	1	70-130/30
75-35-4	1,1-Dichloroethene	ND	50	53.8	108	50	54.8	110	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND	50	45.2	90	50	45.9	92	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND	50	46.8	94	50	47.4	95	1	70-130/30
78-87-5	1,2-Dichloropropane	ND	50	44.9	90	50	45.5	91	1	70-130/30
142-28-9	1,3-Dichloropropane	ND	50	49.0	98	50	49.5	99	1	70-130/30
594-20-7	2,2-Dichloropropane	ND	50	42.9	86	50	45.2	90	5	70-130/30
563-58-6	1,1-Dichloropropene	ND	50	50.7	101	50	51.9	104	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13051-5MS	V10809.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5MSD	V10810.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5	V10791.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND	50	38.5	77	50	39.9	80	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	50	38.7	77	50	40.2	80	4	70-130/30
123-91-1	1,4-Dioxane	ND	250	165	66* a	250	169	68* a	2	70-130/30
97-63-2	Ethyl methacrylate	ND	50	40.1	80	50	40.9	82	2	72-139/30
100-41-4	Ethylbenzene	ND	50	55.6	111	50	56.4	113	1	70-130/30
87-68-3	Hexachlorobutadiene	ND	50	55.7	111	50	58.8	118	5	70-130/30
591-78-6	2-Hexanone	ND	50	38.6	77	50	38.8	78	1	70-130/30
98-82-8	Isopropylbenzene	ND	50	57.0	114	50	57.8	116	1	70-130/30
99-87-6	p-Isopropyltoluene	ND	50	56.3	113	50	57.2	114	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	5.3	50	47.4	84	50	48.0	85	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	34.6	69* a	50	34.9	70	1	70-130/30
74-95-3	Methylene bromide	ND	50	46.9	94	50	48.0	96	2	70-130/30
75-09-2	Methylene chloride	ND	50	43.8	88	50	43.9	88	0	70-130/30
103-65-1	n-Propylbenzene	ND	50	55.9	112	50	56.5	113	1	70-130/30
100-42-5	Styrene	ND	50	56.9	114	50	57.6	115	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	49.5	99	50	51.4	103	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	41.4	83	50	42.3	85	2	70-130/30
127-18-4	Tetrachloroethene	ND	50	59.7	119	50	61.2	122	2	70-130/30
108-88-3	Toluene	ND	50	48.9	98	50	49.5	99	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND	50	46.7	93	50	56.5	113	19	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	50	53.6	107	50	57.6	115	7	70-130/30
71-55-6	1,1,1-Trichloroethane	ND	50	45.7	91	50	47.6	95	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND	50	45.5	91	50	46.6	93	2	70-130/30
79-01-6	Trichloroethene	ND	50	49.5	99	50	50.6	101	2	70-130/30
75-69-4	Trichlorofluoromethane	ND	50	51.0	102	50	53.4	107	5	70-130/30
96-18-4	1,2,3-Trichloropropane	ND	50	36.6	73	50	37.5	75	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND	50	50.1	100	50	50.6	101	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	50	50.8	102	50	51.5	103	1	70-130/30
108-05-4	Vinyl Acetate	ND	50	34.5	69* a	50	35.6	71	3	70-130/30
75-01-4	Vinyl chloride	ND	50	46.4	93	50	47.1	94	1	70-130/30
	m,p-Xylene	ND	100	115	115	100	117	117	2	70-130/30
95-47-6	o-Xylene	ND	50	59.8	120	50	60.8	122	2	70-130/30
1330-20-7	Xylene (total)	ND	150	175	117	150	178	119	2	70-130/30

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13051-5MS	V10809.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5MSD	V10810.D	1	08/23/12	AMY	n/a	n/a	MSV449
MC13051-5	V10791.D	1	08/22/12	AMY	n/a	n/a	MSV449

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-1, MC13051-3, MC13051-4, MC13051-5, MC13051-6

6.3.1  
6

CAS No.	Surrogate Recoveries	MS	MSD	MC13051-5	Limits
1868-53-7	Dibromofluoromethane	90%	91%	95%	70-130%
2037-26-5	Toluene-D8	97%	97%	99%	70-130%
460-00-4	4-Bromofluorobenzene	93%	93%	100%	70-130%

- (a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
- (b) Outside control limits. Associated samples are non-detect for this compound.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC13089-9MS	N66961.D	5	08/23/12	JM	n/a	n/a	MSN2518
MC13089-9MSD	N66962.D	5	08/23/12	JM	n/a	n/a	MSN2518
MC13089-9 <sup>a</sup>	N66951.D	1	08/23/12	JM	n/a	n/a	MSN2518

The QC reported here applies to the following samples:

Method: SW846 8260B

MC13051-3, MC13051-4, MC13051-6

CAS No.	Compound	MC13089-9 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	19.6	250	457	175* <sup>b</sup>	250	452	173* <sup>b</sup>	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC13089-9	Limits
1868-53-7	Dibromofluoromethane	94%	88%	93%	70-130%
2037-26-5	Toluene-D8	95%	76%	97%	70-130%
460-00-4	4-Bromofluorobenzene	108%	125%	93%	70-130%

- (a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
- (b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

# Volatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSN2518-CC2468	Injection Date:	08/23/12
Lab File ID:	N66941.D	Injection Time:	03:26
Instrument ID:	GCMSN	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	135660	9.02	205201	9.89	105743	13.14	105770	15.70	57473	6.56
Upper Limit <sup>a</sup>	271320	9.52	410402	10.39	211486	13.64	211540	16.20	114946	7.06
Lower Limit <sup>b</sup>	67830	8.52	102601	9.39	52872	12.64	52885	15.20	28737	6.06

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSN2518-BS	135660	9.02	205201	9.89	105743	13.14	105770	15.70	57473	6.56
MSN2518-MB	116312	9.02	185174	9.89	89658	13.15	75929	15.70	50705	6.57
ZZZZZZ	49316*	9.02	133932	9.89	59831	13.14	33708 <sup>c</sup>	15.70	27436 <sup>c</sup>	6.58
ZZZZZZ	93444	9.02	137563	9.89	42798 <sup>c</sup>	13.15	28288 <sup>c</sup>	15.71	41271	6.57
ZZZZZZ	45598 <sup>c</sup>	9.02	144231	9.89	47278 <sup>c</sup>	13.15	27103 <sup>c</sup>	15.70	24537 <sup>c</sup>	6.57
ZZZZZZ	75429	9.02	71278 <sup>c</sup>	9.89	36943 <sup>c</sup>	13.15	36052 <sup>c</sup>	15.70	39783	6.57
ZZZZZZ	57397 <sup>c</sup>	9.01	80108 <sup>c</sup>	9.89	65475	13.15	32303 <sup>c</sup>	15.70	19975 <sup>c</sup>	6.57
ZZZZZZ	100650	9.02	161472	9.89	70879	13.15	29180 <sup>c</sup>	15.70	38493	6.57
ZZZZZZ	91582	9.02	83384 <sup>c</sup>	9.89	58372	13.14	102075	15.70	29168	6.57
MC13089-9	141219	9.02	217103	9.89	115526	13.15	108464	15.70	62693	6.56
ZZZZZZ	123233	9.02	135122	9.89	80770	13.14	65193	15.70	58517	6.57
ZZZZZZ	129348	9.02	165864	9.89	72467	13.14	60212	15.70	55043	6.57
MC13051-6	150086	9.02	223996	9.89	108781	13.14	91069	15.70	60580	6.57
MC13051-3	87768	9.02	123746	9.89	103131	13.15	72110	15.70	42674	6.57
MC13051-4	101156	9.02	120014	9.89	66773	13.15	73448	15.70	34171	6.57
ZZZZZZ	81155	9.02	128443	9.89	82373	13.14	48290 <sup>c</sup>	15.70	39544	6.57
ZZZZZZ	89409	9.02	182149	9.89	66885	13.14	54956	15.70	38333	6.57
ZZZZZZ	126517	9.02	180414	9.89	64969	13.14	57015	15.70	46828	6.57
ZZZZZZ	104069	9.02	173155	9.89	62048	13.15	76120	15.70	28820	6.57
MC13089-9MS	116294	9.02	175669	9.89	80892	13.14	68258	15.70	54777	6.56
MC13089-9MSD	103849	9.02	200976	9.89	85309	13.14	78357	15.70	34986	6.56
ZZZZZZ	104358	9.02	147137	9.89	85531	13.14	68265	15.71	40154	6.56

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Results confirmed by reanalysis.

6.4.1  
6

# Volatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSV449-CC436	Injection Date:	08/22/12
Lab File ID:	V10786.D	Injection Time:	13:54
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	609913	6.52	1022136	7.71	533533	11.07	434851	13.30	149850	3.48
Upper Limit <sup>a</sup>	1219826	7.02	2044272	8.21	1067066	11.57	869702	13.80	299700	3.98
Lower Limit <sup>b</sup>	304957	6.02	511068	7.21	266767	10.57	217426	12.80	74925	2.98

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
MSV449-BS	605657	6.53	1021512	7.71	540055	11.07	435493	13.30	152040	3.49
MSV449-MB	602705	6.52	1028208	7.71	530558	11.07	422882	13.30	138763	3.49
MC13051-1	602182	6.52	1022782	7.71	532256	11.07	420633	13.30	126804	3.48
MC13051-5	594493	6.53	1013699	7.71	523106	11.07	414637	13.31	127794	3.49
ZZZZZZ	589940	6.53	1009298	7.72	524962	11.07	417709	13.31	116620	3.49
ZZZZZZ	591468	6.53	1004480	7.71	526867	11.07	417185	13.31	122650	3.49
ZZZZZZ	580574	6.53	996791	7.71	518717	11.07	410496	13.31	127499	3.49
ZZZZZZ	578452	6.52	994733	7.71	522391	11.07	411401	13.30	127196	3.48
MC13051-3	593398	6.56	1164579	7.73	570723	11.07	473511	13.31	136105	3.50
MC13051-6	682824	6.53	1122749	7.72	577131	11.07	489803	13.31	134999	3.50
MC13051-4	694341	6.67	1353020	7.77	676430	11.07	594251	13.30	179316	3.52
ZZZZZZ	864874	6.52	1363686	7.71	687231	11.07	610856	13.31	182987	3.48
ZZZZZZ	854195	6.53	1337403	7.72	679038	11.07	593160	13.30	197477	3.49
ZZZZZZ	843903	6.53	1327681	7.71	684145	11.07	593225	13.30	229230	3.50
ZZZZZZ	840444	6.52	1330227	7.71	670174	11.07	591213	13.30	201279	3.49
MC13051-5MS	814600	6.53	1279047	7.71	642477	11.07	565416	13.30	181072	3.50
MC13051-5MSD	809162	6.52	1271176	7.71	642539	11.07	566018	13.30	174582	3.49

- IS 1 = Pentafluorobenzene
- IS 2 = 1,4-Difluorobenzene
- IS 3 = Chlorobenzene-D5
- IS 4 = 1,4-Dichlorobenzene-d4
- IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.2

6

# Volatile Surrogate Recovery Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8260B	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC13051-1	V10790.D	95	99	99
MC13051-3	V10796.D	95	97	95
MC13051-3	N66955.D	100	120	88
MC13051-4	V10798.D	76	99	93
MC13051-4	N66956.D	110	112	80
MC13051-5	V10791.D	95	99	100
MC13051-6	V10797.D	86	98	97
MC13051-6	N66954.D	86	95	157* a
MC13051-5MS	V10809.D	90	97	93
MC13051-5MSD	V10810.D	91	97	93
MC13089-9MS	N66961.D	94	95	108
MC13089-9MSD	N66962.D	88	76	125
MSN2518-BS	N66941.D	92	95	87
MSN2518-MB	N66943.D	97	93	96
MSV449-BS	V10787.D	100	99	99
MSV449-MB	V10789.D	96	98	99

**Surrogate Compounds**                      **Recovery Limits**

S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

(a) Outside control limits. Results confirmed by reanalysis.

6.5.1  
6



**GC/MS Semi-volatiles**

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**QC Data Summaries****7**

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-MB	W3910.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples:

Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	0.47	5.0	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-MB	W3910.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples:

Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.23	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.24	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	5.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	46%	15-110%
4165-62-2	Phenol-d5	32%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	15-110%
4165-60-0	Nitrobenzene-d5	88%	30-130%
321-60-8	2-Fluorobiphenyl	74%	30-130%
1718-51-0	Terphenyl-d14	107%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

7.1.1  
7

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30002-MB	U9218.D	1	08/14/12	NS	08/12/12	OP30002	MSU509

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
91-20-3	Naphthalene	ND	0.10	0.036	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	72%	30-130%
321-60-8	2-Fluorobiphenyl	72%	30-130%
1718-51-0	Terphenyl-d14	99%	30-130%

7.1.2  
7

# Blank Spike Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-BS	W3911.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples:

Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	33.3	33	30-130
95-57-8	2-Chlorophenol	100	72.7	73	30-130
59-50-7	4-Chloro-3-methyl phenol	100	78.2	78	30-130
120-83-2	2,4-Dichlorophenol	100	79.0	79	30-130
105-67-9	2,4-Dimethylphenol	100	74.4	74	30-130
51-28-5	2,4-Dinitrophenol	100	83.2	83	30-130
534-52-1	4,6-Dinitro-o-cresol	100	106	106	30-130
95-48-7	2-Methylphenol	100	64.5	65	30-130
	3&4-Methylphenol	200	124	62	30-130
88-75-5	2-Nitrophenol	100	83.1	83	30-130
100-02-7	4-Nitrophenol	100	40.1	40	30-130
87-86-5	Pentachlorophenol	100	75.2	75	30-130
108-95-2	Phenol	100	36.3	36	30-130
95-95-4	2,4,5-Trichlorophenol	100	85.2	85	30-130
88-06-2	2,4,6-Trichlorophenol	100	84.5	85	30-130
62-53-3	Aniline	50	28.5	57	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.7	85	40-140
85-68-7	Butyl benzyl phthalate	50	47.2	94	40-140
100-51-6	Benzyl Alcohol	50	33.8	68	40-140
91-58-7	2-Chloronaphthalene	50	40.7	81	40-140
106-47-8	4-Chloroaniline	50	40.1	80	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	38.4	77	40-140
111-44-4	bis(2-Chloroethyl)ether	50	37.9	76	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	48.3	97	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	45.2	90	40-140
122-66-7	1,2-Diphenylhydrazine	50	49.1	98	40-140
121-14-2	2,4-Dinitrotoluene	50	46.8	94	40-140
606-20-2	2,6-Dinitrotoluene	50	44.3	89	40-140
91-94-1	3,3'-Dichlorobenzidine	50	44.1	88	40-140
132-64-9	Dibenzofuran	50	42.4	85	40-140
84-74-2	Di-n-butyl phthalate	50	46.7	93	40-140
117-84-0	Di-n-octyl phthalate	50	48.5	97	40-140
84-66-2	Diethyl phthalate	50	46.1	92	40-140
131-11-3	Dimethyl phthalate	50	44.0	88	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	46.5	93	40-140
118-74-1	Hexachlorobenzene	50	45.6	91	40-140

\* = Outside of Control Limits.

7.2.1  
7

# Blank Spike Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-BS	W3911.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples:

Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	18.4	37* a	40-140
67-72-1	Hexachloroethane	50	30.2	60	40-140
78-59-1	Isophorone	50	44.5	89	40-140
88-74-4	2-Nitroaniline	50	46.2	92	40-140
99-09-2	3-Nitroaniline	50	41.5	83	40-140
100-01-6	4-Nitroaniline	50	38.0	76	40-140
98-95-3	Nitrobenzene	50	44.2	88	40-140
62-75-9	n-Nitrosodimethylamine	50	25.6	51	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	47.5	95	40-140
86-30-6	N-Nitrosodiphenylamine	50	47.1	94	40-140
110-86-1	Pyridine	50	21.9	44	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	49%	15-110%
4165-62-2	Phenol-d5	34%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	15-110%
4165-60-0	Nitrobenzene-d5	87%	30-130%
321-60-8	2-Fluorobiphenyl	71%	30-130%
1718-51-0	Terphenyl-d14	102%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: MC13051

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30002-BS	U9219.D	1	08/14/12	NS	08/12/12	OP30002	MSU509

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	39.8	80	40-140
208-96-8	Acenaphthylene	50	35.7	71	40-140
120-12-7	Anthracene	50	40.5	81	40-140
56-55-3	Benzo(a)anthracene	50	44.2	88	40-140
50-32-8	Benzo(a)pyrene	50	42.1	84	40-140
205-99-2	Benzo(b)fluoranthene	50	47.1	94	40-140
191-24-2	Benzo(g,h,i)perylene	50	40.3	81	40-140
207-08-9	Benzo(k)fluoranthene	50	48.7	97	40-140
218-01-9	Chrysene	50	40.7	81	40-140
53-70-3	Dibenzo(a,h)anthracene	50	41.5	83	40-140
206-44-0	Fluoranthene	50	43.5	87	40-140
86-73-7	Fluorene	50	40.0	80	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	41.9	84	40-140
90-12-0	1-Methylnaphthalene	50	40.7	81	40-140
91-57-6	2-Methylnaphthalene	50	36.2	72	40-140
91-20-3	Naphthalene	50	34.7	69	40-140
85-01-8	Phenanthrene	50	40.4	81	40-140
129-00-0	Pyrene	50	41.7	83	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	89%	30-130%
321-60-8	2-Fluorobiphenyl	66%	30-130%
1718-51-0	Terphenyl-d14	103%	30-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-MS	W3912.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
OP30001-MSD	W3913.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
MC13051-5	W3914.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples: Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	100	37.0	37	100	39.2	39	6	30-130/20
95-57-8	2-Chlorophenol	ND	100	73.4	73	100	75.6	76	3	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND	100	80.3	80	100	82.5	83	3	30-130/20
120-83-2	2,4-Dichlorophenol	ND	100	79.1	79	100	81.5	82	3	30-130/20
105-67-9	2,4-Dimethylphenol	ND	100	80.2	80	100	82.3	82	3	30-130/20
51-28-5	2,4-Dinitrophenol	ND	100	87.6	88	100	93.5	94	7	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND	100	106	106	100	111	111	5	30-130/20
95-48-7	2-Methylphenol	ND	100	68.3	68	100	68.4	68	0	30-130/20
	3&4-Methylphenol	ND	200	131	66	200	131	66	0	30-130/20
88-75-5	2-Nitrophenol	ND	100	84.2	84	100	86.9	87	3	30-130/20
100-02-7	4-Nitrophenol	ND	100	44.3	44	100	48.1	48	8	30-130/20
87-86-5	Pentachlorophenol	ND	100	88.0	88	100	93.3	93	6	30-130/20
108-95-2	Phenol	ND	100	38.0	38	100	36.8	37	3	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND	100	85.0	85	100	88.5	89	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND	100	83.4	83	100	88.1	88	5	30-130/20
62-53-3	Aniline	ND	50	26.1	52	50	4.6	9* a	140* b	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND	50	41.3	83	50	44.8	90	8	40-140/20
85-68-7	Butyl benzyl phthalate	ND	50	44.8	90	50	46.6	93	4	40-140/20
100-51-6	Benzyl Alcohol	ND	50	32.3	65	50	34.7	69	7	40-140/20
91-58-7	2-Chloronaphthalene	ND	50	41.4	83	50	44.7	89	8	40-140/20
106-47-8	4-Chloroaniline	ND	50	32.8	66	50	8.0	16* a	122* b	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND	50	37.2	74	50	39.3	79	5	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND	50	37.0	74	50	38.8	78	5	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	47.9	96	50	49.8	100	4	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	43.9	88	50	47.9	96	9	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND	50	47.0	94	50	48.6	97	3	40-140/20
121-14-2	2,4-Dinitrotoluene	ND	50	45.8	92	50	48.7	97	6	40-140/20
606-20-2	2,6-Dinitrotoluene	ND	50	43.0	86	50	47.3	95	10	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND	50	5.9	12* a	50	ND	0* a	200* b	40-140/20
132-64-9	Dibenzofuran	ND	50	41.9	84	50	44.6	89	6	40-140/20
84-74-2	Di-n-butyl phthalate	ND	50	45.1	90	50	46.9	94	4	40-140/20
117-84-0	Di-n-octyl phthalate	ND	50	44.1	88	50	49.8	100	12	40-140/20
84-66-2	Diethyl phthalate	0.46	J	50	45.1	89	47.9	95	6	40-140/20
131-11-3	Dimethyl phthalate	ND	50	42.3	85	50	45.6	91	8	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	4.3	50	50.6	93	50	54.2	100	7	40-140/20
118-74-1	Hexachlorobenzene	ND	50	42.8	86	50	45.8	92	7	40-140/20

\* = Outside of Control Limits.

7.3.1  
7



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30001-MS	W3912.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
OP30001-MSD	W3913.D	1	08/14/12	KR	08/12/12	OP30001	MSW178
MC13051-5	W3914.D	1	08/14/12	KR	08/12/12	OP30001	MSW178

The QC reported here applies to the following samples: Method: SW846 8270C

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND	50	21.4	43	50	25.3	51	17	40-140/20
67-72-1	Hexachloroethane	ND	50	31.7	63	50	35.4	71	11	40-140/20
78-59-1	Isophorone	ND	50	43.6	87	50	46.3	93	6	40-140/20
88-74-4	2-Nitroaniline	ND	50	43.8	88	50	46.7	93	6	40-140/20
99-09-2	3-Nitroaniline	ND	50	32.7	65	50	14.8	30* a	75* b	40-140/20
100-01-6	4-Nitroaniline	ND	50	39.1	78	50	31.4	63	22* b	40-140/20
98-95-3	Nitrobenzene	ND	50	43.2	86	50	45.9	92	6	40-140/20
62-75-9	n-Nitrosodimethylamine	ND	50	26.2	52	50	27.8	56	6	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND	50	47.4	95	50	49.2	98	4	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND	50	45.1	90	50	46.2	92	2	40-140/20
110-86-1	Pyridine	ND	50	22.2	44	50	ND	0* a	200* b	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC13051-5	Limits
367-12-4	2-Fluorophenol	48%	50%	43%	15-110%
4165-62-2	Phenol-d5	35%	36%	30%	15-110%
118-79-6	2,4,6-Tribromophenol	91%	96%	94%	15-110%
4165-60-0	Nitrobenzene-d5	86%	91%	82%	30-130%
321-60-8	2-Fluorobiphenyl	78%	82%	72%	30-130%
1718-51-0	Terphenyl-d14	61%	76%	76%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.  
 (b) High RPD due to possible matrix interference and/or sample non-homogeneity.

\* = Outside of Control Limits.

7.3.1  
7

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30002-MS	U9227.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
OP30002-MSD	U9228.D	1	08/15/12	NS	08/12/12	OP30002	MSU510
MC13051-5	U9229.D	1	08/15/12	NS	08/12/12	OP30002	MSU510

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
83-32-9	Acenaphthene	0.089	J	50	39.2	78	50	41.7	83	6	40-140/20
208-96-8	Acenaphthylene	0.022	J	50	34.5	69	50	36.4	73	5	40-140/20
120-12-7	Anthracene	ND		50	39.1	78	50	41.4	83	6	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	38.6	77	50	42.4	85	9	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	37.2	74	50	39.6	79	6	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	43.2	86	50	46.8	94	8	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	37.3	75	50	41.7	83	11	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	44.7	89	50	49.1	98	9	40-140/20
218-01-9	Chrysene	ND		50	35.5	71	50	40.0	80	12	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	38.0	76	50	42.9	86	12	40-140/20
206-44-0	Fluoranthene	ND		50	37.2	74	50	40.6	81	9	40-140/20
86-73-7	Fluorene	ND		50	39.6	79	50	41.7	83	5	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	38.4	77	50	43.1	86	12	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	34.3	69	50	35.8	72	4	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	36.2	72	50	38.3	77	6	40-140/20
91-20-3	Naphthalene	0.065	J	50	35.1	70	50	37.9	76	8	40-140/20
85-01-8	Phenanthrene	ND		50	39.5	79	50	41.8	84	6	40-140/20
129-00-0	Pyrene	ND		50	35.3	71	50	38.9	78	10	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC13051-5	Limits
4165-60-0	Nitrobenzene-d5	86%	90%	82%	30-130%
321-60-8	2-Fluorobiphenyl	76%	79%	73%	30-130%
1718-51-0	Terphenyl-d14	61%	77%	71%	30-130%

\* = Outside of Control Limits.

7.3.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSF2706-CC2682	Injection Date:	08/23/12
Lab File ID:	F57051.D	Injection Time:	08:48
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	290888	3.87	1080068	4.86	703212	6.29	1311935	7.63	1327706	10.40	1260081	11.86
Upper Limit <sup>a</sup>	581776	4.37	2160136	5.36	1406424	6.79	2623870	8.13	2655412	10.90	2520162	12.36
Lower Limit <sup>b</sup>	145444	3.37	540034	4.36	351606	5.79	655968	7.13	663853	9.90	630041	11.36

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	317056	3.88	1176728	4.86	749134	6.28	1374384	7.62	1385676	10.40	1474196	11.85
OP30110-MB	356531	3.87	1306952	4.86	822904	6.28	1500737	7.62	1458363	10.40	1568347	11.86
OP30110-BS	345484	3.87	1261713	4.86	804108	6.28	1473451	7.62	1435094	10.41	1481763	11.86
OP30110-BSD	362736	3.88	1324815	4.86	826677	6.28	1520188	7.62	1431395	10.40	1532487	11.85
ZZZZZZ	315143	3.87	1161021	4.86	730376	6.28	1371548	7.62	1367678	10.40	1500481	11.85
ZZZZZZ	357434	3.88	1299794	4.86	834907	6.28	1528894	7.62	1479545	10.40	1607510	11.85
ZZZZZZ	295646	3.88	1082365	4.86	655583	6.28	1235336	7.62	1272440	10.40	1495855	11.85
ZZZZZZ	333109	3.87	1208348	4.86	780166	6.28	1432272	7.62	1428285	10.40	1544574	11.86
OP30110-MS	348450	3.88	1252703	4.86	797898	6.29	1470003	7.62	1411551	10.40	1485924	11.85
OP30110-MSD	392632	3.88	1451019	4.86	905366	6.29	1644558	7.62	1540709	10.40	1690349	11.85
MC13203-6	341244	3.88	1263341	4.86	789931	6.28	1449376	7.62	1382919	10.40	1523187	11.85
OP30116-MB	318226	3.87	1168098	4.86	753752	6.28	1407758	7.62	1403636	10.40	1661582	11.85
OP30116-BS	323894	3.88	1161955	4.86	745202	6.29	1400769	7.62	1417731	10.40	1519332	11.85
ZZZZZZ	307113	3.87	1135556	4.86	715591	6.28	1343601	7.62	1341068	10.40	1517140	11.85
ZZZZZZ	304567	3.87	1118904	4.86	716650	6.28	1338607	7.62	1329343	10.40	1618852	11.85
ZZZZZZ	307136	3.87	1117723	4.86	686330	6.28	1274537	7.62	1300137	10.40	1539155	11.85
ZZZZZZ	304709	3.87	1140437	4.86	724436	6.28	1327269	7.62	1345331	10.40	1592703	11.86
OP30116-MS	328554	3.88	1189476	4.86	760579	6.28	1389249	7.62	1332425	10.40	1371130	11.85
OP30116-MSD	318530	3.87	1162330	4.86	737015	6.28	1387482	7.62	1365503	10.40	1607429	11.86
MC13248-1	297955	3.87	1112716	4.86	719036	6.28	1320459	7.62	1318411	10.40	1506482	11.85
MC13051-3	310587	3.87	1179488	4.86	734772	6.28	1385265	7.62	1383144	10.40	1627116	11.85
MC13051-4	317142	3.87	1181692	4.86	758053	6.28	1412960	7.62	1458864	10.40	1651654	11.85
ZZZZZZ	311473	3.87	1144614	4.86	724577	6.28	1338142	7.62	1337898	10.40	1513875	11.85
ZZZZZZ	311472	3.87	1152300	4.86	746507	6.28	1388425	7.62	1398486	10.40	1652078	11.85
ZZZZZZ	301421	3.87	1103168	4.86	704781	6.28	1290000	7.62	1299722	10.40	1471148	11.85

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU509-CC486	Injection Date:	08/14/12
Lab File ID:	U9203.D	Injection Time:	12:38
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	63460	3.74	187772	4.72	107534	6.14	208136	7.44	142873	10.22	262268	11.66
Upper Limit <sup>a</sup>	126920	4.24	375544	5.22	215068	6.64	416272	7.94	285746	10.72	524536	12.16
Lower Limit <sup>b</sup>	31730	3.24	93886	4.22	53767	5.64	104068	6.94	71437	9.72	131134	11.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP30003-MS	57274	3.74	169152	4.72	93977	6.14	179570	7.44	126434	10.22	225399	11.66
OP30003-MSD	55580	3.74	166692	4.72	91880	6.14	197443	7.44	123656	10.22	213299	11.67
MC12980-2	57474	3.74	173227	4.72	109639	6.14	201766	7.44	131049	10.22	227041	11.66
ZZZZZZ	57478	3.74	170645	4.72	109681	6.14	201900	7.44	129817	10.22	226034	11.66
ZZZZZZ	57043	3.74	166599	4.72	96578	6.14	203742	7.44	130900	10.22	226097	11.66
ZZZZZZ	55540	3.74	165618	4.72	93135	6.14	176738	7.44	128944	10.22	226057	11.66
ZZZZZZ	54257	3.74	159905	4.72	91314	6.14	195123	7.44	127040	10.22	219862	11.66
ZZZZZZ	56735	3.74	168991	4.72	111819	6.14	207096	7.44	133206	10.22	236006	11.66
ZZZZZZ	55440	3.74	167088	4.72	111998	6.13	204895	7.44	134399	10.22	233941	11.66
ZZZZZZ	55733	3.74	165774	4.72	108569	6.14	200460	7.44	129018	10.22	227602	11.66
ZZZZZZ	53927	3.74	161558	4.72	109484	6.13	198429	7.44	126405	10.22	222161	11.66
ZZZZZZ	53971	3.74	159753	4.72	105283	6.13	193964	7.44	124352	10.22	216207	11.66
ZZZZZZ	53815	3.74	191723	4.72	105544	6.13	193738	7.44	125043	10.22	217637	11.66
ZZZZZZ	56452	3.74	201492	4.72	110919	6.13	202732	7.44	130463	10.22	222859	11.66
OP29999-MB	54855	3.74	199880	4.72	109306	6.13	200965	7.44	128855	10.22	225309	11.66
OP30002-MB	54855	3.74	199880	4.72	109306	6.13	200965	7.44	128855	10.22	225309	11.66
OP30003-MB	54855	3.74	199880	4.72	109306	6.13	200965	7.44	128855	10.22	225309	11.66
OP30003-BS	56871	3.74	166126	4.72	112716	6.14	205313	7.45	127969	10.23	226947	11.67
OP30002-BS	56871	3.74	166126	4.72	112716	6.14	205313	7.45	127969	10.23	226947	11.67
OP29999-BS	56871	3.74	166126	4.72	112716	6.14	205313	7.45	127969	10.23	226947	11.67

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.  
 (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.2  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU510-CC486	Injection Date:	08/15/12
Lab File ID:	U9224.D	Injection Time:	12:00
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	89118	3.69	256402	4.67	142706	6.08	267055	7.39	180402	10.17	319169	11.60
Upper Limit <sup>a</sup>	178236	4.19	512804	5.17	285412	6.58	534110	7.89	360804	10.67	638338	12.10
Lower Limit <sup>b</sup>	44559	3.19	128201	4.17	71353	5.58	133528	6.89	90201	9.67	159585	11.10

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
ZZZZZZ	69592	3.69	202099	4.67	114452	6.08	215080	7.39	149874	10.16	222192	11.60
ZZZZZZ	76525	3.69	214728	4.67	119898	6.08	214151	7.39	141566	10.17	208040	11.60
OP30002-MS	66852	3.69	191724	4.67	105730	6.08	195864	7.39	138542	10.17	241536	11.60
OP30002-MSD	72387	3.69	201213	4.67	109388	6.08	198277	7.39	132748	10.17	232425	11.60
MC13051-5	69816	3.69	199574	4.67	107655	6.08	197953	7.39	140363	10.17	247207	11.60
MC13051-3	69836	3.69	202309	4.67	110358	6.08	204418	7.39	144437	10.17	259591	11.60
MC13051-4	67349	3.69	191475	4.67	104796	6.08	192625	7.39	135888	10.17	242327	11.60
MC13051-6	68070	3.69	194978	4.67	105156	6.08	192036	7.39	137254	10.17	243273	11.61
OP30017-MB	61672	3.69	177972	4.67	98443	6.08	182955	7.39	128418	10.16	223603	11.60
OP30023-MB	61672	3.69	177972	4.67	98443	6.08	182955	7.39	128418	10.16	223603	11.60
OP30017-BS	61469	3.69	178107	4.67	97831	6.08	183546	7.39	124439	10.17	226260	11.60
OP30023-BS	61469	3.69	178107	4.67	97831	6.08	183546	7.39	124439	10.17	226260	11.60
ZZZZZZ	59102	3.69	175521	4.67	99410	6.08	189124	7.39	137728	10.17	244525	11.60
ZZZZZZ	65516	3.69	185346	4.67	101522	6.08	184686	7.39	129471	10.16	228734	11.60
ZZZZZZ	65313	3.69	186120	4.67	103730	6.08	189012	7.39	130394	10.17	231959	11.60
ZZZZZZ	65447	3.69	185330	4.67	102631	6.08	187721	7.39	129436	10.17	230924	11.60
ZZZZZZ	63593	3.69	179818	4.67	98699	6.08	180885	7.39	127979	10.17	232657	11.60
ZZZZZZ	62198	3.69	178641	4.67	96975	6.08	181054	7.39	127460	10.16	225907	11.60
ZZZZZZ	70342	3.69	207485	4.67	109743	6.08	202008	7.39	140593	10.17	246967	11.60
ZZZZZZ	93819	3.69	265088	4.67	143936	6.08	262775	7.39	123823	10.17	166830	11.60
OP29989-MS	65697	3.69	187382	4.67	100818	6.09	212042	7.39	130720	10.17	237764	11.61
OP29989-MSD	62728	3.69	179626	4.67	97558	6.09	204601	7.39	128716	10.17	230490	11.61
MC12986-5	67602	3.69	196200	4.67	106986	6.08	225108	7.39	142968	10.17	254887	11.61
ZZZZZZ	71268	3.69	205949	4.67	136412	6.08	239967	7.39	150967	10.17	259917	11.60
ZZZZZZ	72738	3.69	210520	4.67	139627	6.08	243203	7.39	154162	10.17	271471	11.60
ZZZZZZ	70161	3.69	200150	4.67	126595	6.08	220838	7.39	132208	10.16	182179	11.60

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

7.4.3  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSU510-CC486	Injection Date:	08/15/12
Lab File ID:	U9224.D	Injection Time:	12:00
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW178-CC129	Injection Date:	08/14/12
Lab File ID:	W3907A.D	Injection Time:	11:40
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	506589	3.78	1904580	4.77	1182344	6.19	2171753	7.51	2697161	10.40	2407116	11.98
Upper Limit <sup>a</sup>	1013178	4.28	3809160	5.27	2364688	6.69	4343506	8.01	5394322	10.90	4814232	12.48
Lower Limit <sup>b</sup>	253295	3.28	952290	4.27	591172	5.69	1085877	7.01	1348581	9.90	1203558	11.48

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29925-MB	431604	3.78	1610614	4.76	973175	6.19	1745495	7.51	1951330	10.39	1304015	11.97
ZZZZZZ	444681	3.78	1643227	4.76	999933	6.19	1803542	7.51	2003799	10.39	1292311	11.97
OP30001-MB	397062	3.78	1466879	4.76	882299	6.19	1619750	7.51	1890645	10.39	1890794	11.97
OP30001-BS	428206	3.78	1583220	4.76	946540	6.19	1670746	7.51	2094745	10.40	1975620	11.97
OP30001-MS	408764	3.78	1523911	4.76	924344	6.19	1637055	7.51	2029490	10.40	1912323	11.97
OP30001-MSD	414363	3.78	1532391	4.76	917143	6.19	1662337	7.51	2056791	10.40	1882973	11.97
MC13051-5	481081	3.78	1787474	4.76	1099613	6.19	1981892	7.51	2396778	10.40	2350117	11.97
MC13051-3	418364	3.78	1545313	4.76	956696	6.19	1702504	7.51	2053660	10.39	2022744	11.97
MC13051-4	415296	3.78	1512393	4.76	921281	6.19	1663976	7.51	2012786	10.39	1961711	11.97
MC13051-6	451872	3.78	1690023	4.76	1038511	6.19	1880124	7.51	2309163	10.40	2226134	11.97
ZZZZZZ	409853	3.78	1526329	4.76	933333	6.19	1687115	7.51	2005069	10.39	1982973	11.97
OP30009-MB	439096	3.78	1636280	4.76	982487	6.19	1749280	7.51	2080789	10.39	2130498	11.97
OP30009-BS	471604	3.78	1731924	4.76	1054861	6.19	1842643	7.51	2217334	10.40	2149677	11.97
OP30009-BSD	467569	3.78	1741673	4.76	1044075	6.19	1840018	7.51	2201923	10.40	2164485	11.97
OP30009-MS	465495	3.78	1716306	4.76	1014782	6.19	1803918	7.51	2115885	10.40	2083002	11.97
OP30009-MSD	451440	3.78	1666733	4.76	1005400	6.19	1754381	7.51	2110880	10.40	2093585	11.97
MC13050-1	454723	3.78	1696875	4.76	1029087	6.19	1846037	7.51	2159391	10.39	2253254	11.97
ZZZZZZ	435406	3.78	1625378	4.76	967202	6.19	1712632	7.51	2032549	10.39	2070467	11.97
ZZZZZZ	444262	3.78	1636657	4.76	988099	6.19	1762935	7.51	2134962	10.40	2168011	11.97
ZZZZZZ	430359	3.78	1619750	4.76	973351	6.19	1716539	7.51	2090633	10.39	2184984	11.97
ZZZZZZ	447502	3.78	1661276	4.76	1004284	6.19	1794604	7.51	2133974	10.40	2265623	11.97
ZZZZZZ	441067	3.78	1616965	4.76	1038996	6.19	1815524	7.51	2128362	10.39	2114007	11.97
OP29977-MS	400061	3.78	1492075	4.76	921740	6.19	1625878	7.51	2051071	10.40	1990209	11.98
OP29977-MSD	389924	3.78	1472297	4.76	913913	6.19	1629896	7.51	2036617	10.40	1997544	11.98
MC12986-5	412295	3.78	1515000	4.76	948865	6.19	1707407	7.51	2107907	10.40	2127459	11.98
ZZZZZZ	419940	3.78	1564834	4.76	942766	6.19	1744648	7.51	2068227	10.39	2086928	11.97
ZZZZZZ	414568	3.78	1550014	4.76	953515	6.19	1730626	7.51	2056863	10.39	2065094	11.97
ZZZZZZ	412821	3.78	848768 <sup>c</sup>	4.79	969058	6.19	1877625	7.53	2341846	10.43	2271389	12.00

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

7.4.4  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW178-CC129	Injection Date:	08/14/12
Lab File ID:	W3907A.D	Injection Time:	11:40
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

7.4.4  
7



# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW177-CC138	Injection Date:	08/14/12
Lab File ID:	W3907.D	Injection Time:	11:40
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	506589	3.78	1904580	4.77	1182344	6.19	2170726	7.51	2697161	10.40	2407116	11.98
Upper Limit <sup>a</sup>	1013178	4.28	3809160	5.27	2364688	6.69	4341452	8.01	5394322	10.90	4814232	12.48
Lower Limit <sup>b</sup>	253295	3.28	952290	4.27	591172	5.69	1085363	7.01	1348581	9.90	1203558	11.48

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP29925-MB	431604	3.78	1610614	4.76	973175	6.19	1745495	7.51	1951330	10.39	1304015	11.97
ZZZZZZ	444681	3.78	1643227	4.76	999933	6.19	1803542	7.51	2003799	10.39	1292311	11.97
OP30001-MB	397062	3.78	1466879	4.76	882299	6.19	1619750	7.51	1890645	10.39	1890794	11.97
OP30001-BS	428206	3.78	1583220	4.76	946540	6.19	1670746	7.51	2094745	10.40	1975620	11.97
OP30001-MS	408764	3.78	1523911	4.76	924344	6.19	1637055	7.51	2029490	10.40	1912323	11.97
OP30001-MSD	414363	3.78	1532391	4.76	917143	6.19	1662337	7.51	2056791	10.40	1882973	11.97
MC13051-5	481081	3.78	1787474	4.76	1099613	6.19	1981892	7.51	2396778	10.40	2350117	11.97
MC13051-3	418364	3.78	1545313	4.76	956696	6.19	1702504	7.51	2053660	10.39	2022744	11.97
MC13051-4	415296	3.78	1512393	4.76	921281	6.19	1663976	7.51	2012786	10.39	1961711	11.97
MC13051-6	451872	3.78	1690023	4.76	1038511	6.19	1880124	7.51	2309163	10.40	2226134	11.97
ZZZZZZ	409853	3.78	1526329	4.76	933333	6.19	1687115	7.51	2005069	10.39	1982973	11.97
OP30009-MB	439096	3.78	1636280	4.76	982487	6.19	1749280	7.51	2080789	10.39	2130498	11.97
OP30009-BS	471604	3.78	1731924	4.76	1054861	6.19	1842643	7.51	2217334	10.40	2149677	11.97
OP30009-BSD	467569	3.78	1741673	4.76	1044075	6.19	1840018	7.51	2201923	10.40	2164485	11.97
OP30009-MS	465495	3.78	1716306	4.76	1014782	6.19	1803918	7.51	2115885	10.40	2083002	11.97
OP30009-MSD	451440	3.78	1666733	4.76	1005400	6.19	1754381	7.51	2110880	10.40	2093585	11.97
MC13050-1	454723	3.78	1696875	4.76	1029087	6.19	1846037	7.51	2159391	10.39	2253254	11.97
ZZZZZZ	435406	3.78	1625378	4.76	967202	6.19	1712632	7.51	2032549	10.39	2070467	11.97
ZZZZZZ	444262	3.78	1636657	4.76	988099	6.19	1762935	7.51	2134962	10.40	2168011	11.97
ZZZZZZ	430359	3.78	1619750	4.76	973351	6.19	1716539	7.51	2090633	10.39	2184984	11.97
ZZZZZZ	447502	3.78	1661276	4.76	1004284	6.19	1794604	7.51	2133974	10.40	2265623	11.97
ZZZZZZ	441067	3.78	1616965	4.76	1038996	6.19	1815524	7.51	2128362	10.39	2114007	11.97
OP29977-MS	400061	3.78	1492075	4.76	921740	6.19	1625878	7.51	2051071	10.40	1990209	11.98
OP29977-MSD	389924	3.78	1472297	4.76	913913	6.19	1629896	7.51	2036617	10.40	1997544	11.98
MC12986-5	412295	3.78	1515000	4.76	948865	6.19	1707407	7.51	2107907	10.40	2127459	11.98
ZZZZZZ	419940	3.78	1564834	4.76	942766	6.19	1744648	7.51	2068227	10.39	2086928	11.97
ZZZZZZ	414568	3.78	1550014	4.76	953515	6.19	1730626	7.51	2056863	10.39	2065094	11.97
ZZZZZZ	412821	3.78	848768 <sup>c</sup>	4.79	969058	6.19	1877625	7.53	2341846	10.43	2271389	12.00

- IS 1 = 1,4-Dichlorobenzene-d4
- IS 2 = Naphthalene-d8
- IS 3 = Acenaphthene-D10
- IS 4 = Phenanthrene-d10
- IS 5 = Chrysene-d12
- IS 6 = Perylene-d12

7.4.5  
7

# Semivolatile Internal Standard Area Summary

Job Number: MC13051  
Account: SHELLWIC Shell Oil  
Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	MSW177-CC138	Injection Date:	08/14/12
Lab File ID:	W3907.D	Injection Time:	11:40
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

- (a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

7.4.5  
7

# Semivolatile Surrogate Recovery Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC13051-3	F57072.D	38	38	69	65	64	60
MC13051-3	W3915.D	45	46	93	85	74	73
MC13051-4	F57073.D	33	34	64	61	56	55
MC13051-4	W3916.D	42	44	87	79	68	69
MC13051-5	W3914.D	43	30	94	82	72	76
MC13051-6	W3917.D	47	45	102	86	78	72
OP30001-BS	W3911.D	49	34	93	87	71	102
OP30001-MB	W3910.D	46	32	90	88	74	107
OP30001-MS	W3912.D	48	35	91	86	78	61
OP30001-MSD	W3913.D	50	36	96	91	82	76

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.5.1

7

# Semivolatile Surrogate Recovery Summary

Job Number: MC13051

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC13051-3	U9230.D	82	74	69
MC13051-4	U9231.D	78	68	64
MC13051-5	U9229.D	82	73	71
MC13051-6	U9232.D	85	77	69
OP30002-BS	U9219.D	89	66	103
OP30002-MB	U9218.D	72	72	99
OP30002-MS	U9227.D	86	76	61
OP30002-MSD	U9228.D	90	79	77

**Surrogate Compounds**                      **Recovery Limits**

S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

7.5.2  
7

## GC Volatiles

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## QC Data Summaries



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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries

# Method Blank Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30032-MB	BK16050A.D	1	08/15/12	AP	08/14/12	OP30032	GBK608

The QC reported here applies to the following samples: Method: SW846 8011

MC13051-2, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	Bromofluorobenzene (S)	75%	36-173%
460-00-4	Bromofluorobenzene (S)	71%	36-173%

8.1.1  
8

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30032-BS	BK16051A.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
OP30032-BSD	BK16052.D	1	08/15/12	AP	08/14/12	OP30032	GBK608

The QC reported here applies to the following samples: Method: SW846 8011

MC13051-2, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.071	100	0.076	107	7	60-140/30
106-93-4	1,2-Dibromoethane	0.071	0.072	101	0.072	101	0	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	Bromofluorobenzene (S)	121%	115%	36-173%
460-00-4	Bromofluorobenzene (S)	105%	113%	36-173%

8.2.1  
8

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30032-MS	BK16060.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
OP30032-MSD	BK16061.D	1	08/15/12	AP	08/14/12	OP30032	GBK608
MC13051-5	BK16065.D	1	08/15/12	AP	08/14/12	OP30032	GBK608

The QC reported here applies to the following samples: Method: SW846 8011

MC13051-2, MC13051-3, MC13051-4, MC13051-5, MC13051-6

CAS No.	Compound	MC13051-5 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0706	0.062	88	0.07	0.063	90	2	64-141/29
106-93-4	1,2-Dibromoethane	ND	0.0706	0.072	102	0.07	0.073	104	1	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC13051-5	Limits
460-00-4	Bromofluorobenzene (S)	101%	103%	108%	36-173%
460-00-4	Bromofluorobenzene (S)	89%	91%	94%	36-173%

8.3.1  
8

\* = Outside of Control Limits.



# Volatile Surrogate Recovery Summary

Job Number: MC13051

Account: SHELLWIC Shell Oil

Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Method: SW846 8011

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>
MC13051-2	BK16062.D	118	113
MC13051-3	BK16063.D	131	108
MC13051-4	BK16064.D	93	90
MC13051-5	BK16065.D	108	94
MC13051-6	BK16066.D	108	97
OP30032-BS	BK16051A.D	121	105
OP30032-BSD	BK16052.D	115	113
OP30032-MB	BK16050A.D	75	71
OP30032-MS	BK16060.D	101	89
OP30032-MSD	BK16061.D	103	91

**Surrogate Compounds**                      **Recovery Limits**

S1 = Bromofluorobenzene (S)                      36-173%

(a) Recovery from GC signal #2

(b) Recovery from GC signal #1

# GC Surrogate Retention Time Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK608-ICC608	Injection Date:	08/15/12
Lab File ID:	BK16044.D	Injection Time:	15:15
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.20	4.30
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
ZZZZZZ	BK16049.D	08/15/12	17:16	5.20	4.30
OP30031-MB	BK16050.D	08/15/12	17:40	5.20	4.30
OP30032-MB	BK16050A.D	08/15/12	17:40	5.20	4.30
OP30031-BS	BK16051.D	08/15/12	18:05	5.20	4.30
OP30032-BS	BK16051A.D	08/15/12	18:05	5.20	4.30
OP30032-BSD	BK16052.D	08/15/12	18:29	5.20	4.30
OP30031-MS	BK16053.D	08/15/12	18:53	5.20	4.30
OP30031-MSD	BK16054.D	08/15/12	19:18	5.20	4.30
ZZZZZZ	BK16055.D	08/15/12	19:42	5.20	4.30
ZZZZZZ	BK16056.D	08/15/12	20:06	5.20	4.30
ZZZZZZ	BK16057.D	08/15/12	20:30	5.20	4.30
MC12986-5	BK16058.D	08/15/12	20:54	5.20	4.30

**Surrogate Compounds**

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.1  
8

# GC Surrogate Retention Time Summary

Job Number: MC13051  
 Account: SHELLWIC Shell Oil  
 Project: URSMOSTL:Roxana 3Q12 GW/ 21562735.00008 900 South Central Avenue, Roxana, IL

Check Std:	GBK608-CC608	Injection Date:	08/15/12
Lab File ID:	BK16059.D	Injection Time:	21:19
Instrument ID:	GCBK	Method:	SW846 8011

S1<sup>a</sup>    S1<sup>b</sup>  
 RT      RT

Check Std	5.20	4.30
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT
OP30032-MS	BK16060.D	08/15/12	21:43	5.20	4.30
OP30032-MSD	BK16061.D	08/15/12	22:08	5.20	4.30
MC13051-2	BK16062.D	08/15/12	22:33	5.20	4.30
MC13051-3	BK16063.D	08/15/12	22:57	5.20	4.30
MC13051-4	BK16064.D	08/15/12	23:21	5.20	4.30
MC13051-5	BK16065.D	08/15/12	23:45	5.20	4.30
MC13051-6	BK16066.D	08/16/12	00:09	5.20	4.30
ZZZZZZ	BK16067.D	08/16/12	00:34	5.20	4.30
ZZZZZZ	BK16068.D	08/16/12	00:59	5.20	4.30
GBK608-ECC608	BK16069.D	08/16/12	01:24	5.20	4.30

## Surrogate Compounds

S1 = Bromofluorobenzene (S)

- (a) Retention time from GC signal #2
- (b) Retention time from GC signal #1

8.5.2  
8