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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
Public Work Yard Soil Sampling
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)

AECOM

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

Sincerely,

AECOM, on behalf of Shell Oil Products US

Robert B Billman

Robert Billman, PG
Senior Project Manager

Robert E. Mooshegian, CHMM
Senior Program Manager

Enclosures: 2 copies

cc: Kevin Dyer, SOPUS
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 1. 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: _____ 5/17/18 (Date)

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: _____ 5/17/17 Date

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

Professional's Seal:

LICENSED PROFESSIONAL GEOLOGIST
ROBERT B. BILLMAN
196-000646
ILLINOIS

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

5.17.17

Signature of Laboratory Responsible Officer — Date

HOSSAIN (BABU) MAJADIAN

Name and Title of Laboratory Responsible Officer

LAB Director

Mailing Address of Laboratory:

50 D'Angelo Drive

495 Technology Center West, Building 1

Marlboro, MA 01752

LEGAL REVIEWED BY: TMD 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

May 16, 2017

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-14-33	MC16999-2	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-14-33	MC16999-2	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-14-33	MC16999-2	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-14-39	MC16999-3	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-14-39	MC16999-3	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-14-39	MC16999-3	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-19	MC16999-6	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-19	MC16999-6	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-19	MC16999-6	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-15-47	MC16999-10	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-47	MC16999-10	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-47	MC16999-10	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-55	MC16999-11	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-55	MC16999-11	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-55	MC16999-11	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-37 DUP	MC16999-12	12/18/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	
SW846 8260B	GP-15-37 DUP	MC16999-12	12/18/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-37 DUP	MC16999-12	12/18/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.	

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-15-74	MC17144-1	12/21/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-15-74	MC17144-1	12/21/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-74	MC17144-1	12/21/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-15-89	MC17144-2	12/21/2012	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-15-89	MC17144-2	12/21/2012	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-15-89	MC17144-2	12/21/2012	2-Butanone (MEK)	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-42	MC17324-2	01/03/2013	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-42	MC17324-2	01/03/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-16-42	MC17324-2	01/03/2013	2-Hexanone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-51	MC17324-3	01/03/2013	Acetone	0.490	0.490	J	mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	GP-16-51	MC17324-3	01/03/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-16-51	MC17324-3	01/03/2013	2-Hexanone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-57	MC17324-4	01/03/2013	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-57	MC17324-4	01/03/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-16-57	MC17324-4	01/03/2013	2-Hexanone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-57-DUP	MC17324-5	01/03/2013	Acetone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	
SW846 8260B	GP-16-57-DUP	MC17324-5	01/03/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-16-57-DUP	MC17324-5	01/03/2013	2-Hexanone	19.1	19.1		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	GP-16-77	MC17324-6	01/03/2013	Acetone	0.544	0.544		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	J
SW846 8260B	GP-16-77	MC17324-6	01/03/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.	UJ
SW846 8260B	GP-16-77	MC17324-6	01/03/2013	2-Hexanone	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.	

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Benzene	154	154		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	n-Butylbenzene	3.01	3.01		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	sec-Butylbenzene	0.323	0.323	J	mg/kg	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	GP-17-15	MC17401-2	01/07/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Ethylbenzene	1.69	1.69		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Isopropylbenzene	0.269	0.269	J	mg/kg	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	GP-17-15	MC17401-2	01/07/2013	p-Isopropyltoluene	0.415	0.415	J	mg/kg	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	GP-17-15	MC17401-2	01/07/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Naphthalene	45.3	45.3		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	n-Propylbenzene	1.74	1.74	J	mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	1,2,4-Trimethylbenzene	16.3	16.3		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	1,3,5-Trimethylbenzene	3.00	3.00		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	m,p-Xylene	4.44	4.44		mg/kg	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	GP-17-15	MC17401-2	01/07/2013	o-Xylene	2.84	2.84		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15	MC17401-2	01/07/2013	Xylene (total)	7.28	7.28		mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Benzene	391	391		mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	n-Butylbenzene	4.67	4.67	J	mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Ethylbenzene	3.04	3.04		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Isopropylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Naphthalene	64.5	64.5		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	n-Propylbenzene	2.69	2.69	J	mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	1,2,4-Trimethylbenzene	25.0	25.0		mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	1,3,5-Trimethylbenzene	4.96	4.96	J	mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	m,p-Xylene	7.57	7.57		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-15 DUP	MC17401-3	01/07/2013	o-Xylene	4.76	4.76		mg/kg	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	GP-17-15 DUP	MC17401-3	01/07/2013	Xylene (total)	12.3	12.3		mg/kg	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	GP-17-45	MC17401-4	01/07/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Ethylbenzene	1.45	1.45	J	mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Isopropylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	n-Propylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Toluene	3.09	3.09	J	mg/kg	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	GP-17-45	MC17401-4	01/07/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	1,2,4-Trimethylbenzene	2.67	2.67	J	mg/kg	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	GP-17-45	MC17401-4	01/07/2013	1,3,5-Trimethylbenzene	0.755	0.755	J	mg/kg	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	GP-17-45	MC17401-4	01/07/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	m,p-Xylene	2.73	2.73		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-45	MC17401-4	01/07/2013	o-Xylene	0.945	0.945	J	mg/kg	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	GP-17-45	MC17401-4	01/07/2013	Xylene (total)	3.68	3.68		mg/kg	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	GP-17-57	MC17401-5	01/07/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Benzene	178	178		mg/kg	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	GP-17-57	MC17401-5	01/07/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Ethylbenzene	0.569	0.569	J	mg/kg	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	GP-17-57	MC17401-5	01/07/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Isopropylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	n-Propylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	1,2,4-Trimethylbenzene	1.06	1.06	J	mg/kg	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	GP-17-57	MC17401-5	01/07/2013	1,3,5-Trimethylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	m,p-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	o-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-57	MC17401-5	01/07/2013	Xylene (total)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Benzene	15.4	15.4		mg/kg	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	GP-17-65	MC17401-6	01/07/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	n-Butylbenzene	0.0559	0.0559	J	mg/kg	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	GP-17-65	MC17401-6	01/07/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Ethylbenzene	0.410	0.410		mg/kg	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	GP-17-65	MC17401-6	01/07/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Isopropylbenzene	0.0402	0.0402	J	mg/kg	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	GP-17-65	MC17401-6	01/07/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	n-Propylbenzene	0.173	0.173	J	mg/kg	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	GP-17-65	MC17401-6	01/07/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	1,2,4-Trimethylbenzene	0.675	0.675		mg/kg	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	GP-17-65	MC17401-6	01/07/2013	1,3,5-Trimethylbenzene	0.190	0.190	J	mg/kg	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	GP-17-65	MC17401-6	01/07/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-17-65	MC17401-6	01/07/2013	m,p-Xylene	0.934	0.934		mg/kg	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	GP-17-65	MC17401-6	01/07/2013	o-Xylene	0.230	0.230		mg/kg	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	GP-17-65	MC17401-6	01/07/2013	Xylene (total)	1.16	1.16		mg/kg	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	GP-18-21	MC17401-8	01/08/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Benzene	9.94	9.94		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Ethylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Isopropylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	n-Propylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,2,4-Trimethylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	1,3,5-Trimethylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	m,p-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	o-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-21	MC17401-8	01/08/2013	Xylene (total)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Ethylbenzene	1.13	1.13	J	mg/kg	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	GP-18-37	MC17401-9	01/08/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Isopropylbenzene	0.368	0.368	J	mg/kg	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	GP-18-37	MC17401-9	01/08/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	n-Propylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	1,2,4-Trimethylbenzene	6.98	6.98		mg/kg	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	GP-18-37	MC17401-9	01/08/2013	1,3,5-Trimethylbenzene	1.78	1.78	J	mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-37	MC17401-9	01/08/2013	m,p-Xylene	2.52	2.52		mg/kg	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	GP-18-37	MC17401-9	01/08/2013	o-Xylene	0.798	0.798	J	mg/kg	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	GP-18-37	MC17401-9	01/08/2013	Xylene (total)	3.32	3.32		mg/kg	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	GP-18-53	MC17401-10	01/08/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Ethylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Isopropylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	n-Propylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	1,2,4-Trimethylbenzene	1.75	1.75	J	mg/kg	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	GP-18-53	MC17401-10	01/08/2013	1,3,5-Trimethylbenzene	0.510	0.510	J	mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	m,p-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	o-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-53	MC17401-10	01/08/2013	Xylene (total)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Acetone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Acrolein	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Acrylonitrile	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Benzene	67.8	67.8		mg/kg	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	GP-18-63	MC17401-11	01/08/2013	Bromobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Bromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Bromodichloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Bromoform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Bromomethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	2-Butanone (MEK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	n-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	sec-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	tert-Butylbenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Carbon disulfide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Carbon tetrachloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Chlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Chloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	2-Chloroethyl vinyl ether	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Chloroform	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Chloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	o-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	p-Chlorotoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Dibromochloromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,3-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,4-Dichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Dichlorodifluoromethane	ND	ND		mg/kg	Ana: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low. Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2-Dichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	cis-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	trans-1,2-Dichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,3-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	2,2-Dichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	cis-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	trans-1,3-Dichloropropene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,4-Dioxane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Ethyl methacrylate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Ethylbenzene	0.243	0.243	J	mg/kg	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	GP-18-63	MC17401-11	01/08/2013	Hexachlorobutadiene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	2-Hexanone	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Isopropylbenzene	0.296	0.296	J	mg/kg	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	GP-18-63	MC17401-11	01/08/2013	p-Isopropyltoluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Methyl Tert Butyl Ether	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	4-Methyl-2-pentanone (MIBK)	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Methylene bromide	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Methylene chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Naphthalene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	n-Propylbenzene	0.785	0.785	J	mg/kg	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	GP-18-63	MC17401-11	01/08/2013	Styrene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1,1,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1,2,2-Tetrachloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Tetrachloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Toluene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2,3-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2,4-Trichlorobenzene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1,1-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,1,2-Trichloroethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Trichloroethene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Trichlorofluoromethane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2,3-Trichloropropane	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,2,4-Trimethylbenzene	2.69	2.69		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

Analytical Method	Sample ID	Lab Sample ID	Sample Date	Analyte	Original Result	Corrected Result	Laboratory Qualifier	Units	Laboratory Footnote	AECOM Qualifier
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	1,3,5-Trimethylbenzene	0.731	0.731	J	mg/kg	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	GP-18-63	MC17401-11	01/08/2013	Vinyl Acetate	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Vinyl chloride	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	m,p-Xylene	1.41	1.41		mg/kg	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	GP-18-63	MC17401-11	01/08/2013	o-Xylene	ND	ND		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	UJ
SW846 8260B	GP-18-63	MC17401-11	01/08/2013	Xylene (total)	1.41	1.41		mg/kg	Inj: Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.	J

LABORATORY QUALIFIERS:

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

ND = Not detected.

AECOM QUALIFIERS:

J = The result is estimated.

UJ = Estimated nondetect.

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TABLE 2
Summary of Soil Analytical Results for Detected Constituents
Public Works Yard, Roxana, Illinois

Location	Sample ID	Depth	Sample Date	Benzene			Ethylbenzene			Toluene			m,p-Xylenes			o-Xylenes			Xylenes (total)			Acrylonitrile			n-Butylbenzene		
				Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals
GP-14	GP-14-13	13 ft	12/18/2012	0.00049	J		< 0.0023	U		< 0.0058	U		< 0.0023	U		< 0.0023	U		< 0.0023	U		< 0.029	U		< 0.0058	U	
	GP-14-33	33 ft	12/18/2012	3.57			< 0.24	U		< 0.61	U		< 0.24	U		< 0.24	U		< 0.24	U		< 3	U		0.0877	J	
	GP-14-39	39 ft	12/18/2012	3.75			0.111	J		< 0.61	U		0.441			< 0.24	U		0.441			< 3	U		0.754		
	GP-14-45	45 ft	12/18/2012	0.16			0.0032			0.0111			0.008			0.0026			0.0105			< 0.024	U		0.0024	J	
GP-15	GP-15-19	19 ft	12/18/2012	63.7			0.669			0.283	J		1.36			0.294	J		1.66			< 6.2	U		1.58		
	GP-15-29	29 ft	12/18/2012	0.126			0.00064	J		0.00099	J		0.0012	J		0.00039	J		0.0016	J		< 0.028	U		< 0.0055	U	
	GP-15-37	37 ft	12/18/2012	974			4.56	J		5.53	J		12.3			4.6	J		16.9			< 61	U		1.12	J	
	GP-15-37-DUP	37 ft	12/18/2012	1150			5.28			6.76			15.7			6.08			21.8			< 2.8	U		0.864		
	GP-15-47	47 ft	12/18/2012	283			1.71			1.69	J		4.81			1.62			6.43			< 15	U		0.347	J	
	GP-15-55	55 ft	12/18/2012	184			111			12.5			290			63			353			< 25	U		13.9		
	GP-15-74	74 ft	12/21/2012	3.97			0.151	J		< 0.57	U		0.403			0.0966	J		0.5			< 2.8	U		0.0387	J	
	GP-15-89	89 ft	12/21/2012	0.483			< 0.21	U		< 0.52	U		< 0.21	U		< 0.21	U		< 0.21	U		< 2.6	U		< 0.52	U	
GP-16	GP-16-23	23 ft	1/3/2013	0.0458			0.0022	J		0.0028	J		< 0.0026	U		< 0.0026	U		0.00078	J		< 0.032	U		< 0.0065	U	
	GP-16-42	42 ft	1/3/2013	476			0.177	J		0.999			0.509			0.226	J		0.735			< 2.9	U		< 0.57	U	
	GP-16-51	51 ft	1/3/2013	25			0.298			0.141	J		0.706			0.189	J		0.895			< 2.6	U		0.141	J	
	GP-16-57	57 ft	1/3/2013	431			33.1		J	76.8			62.1		J	11.4		J	73.5		J	24.5			27.9		
	GP-16-57-DUP	57 ft	1/3/2013	473			21.5		J	94.3			40		J	7.63		J	47.6		J	27.6			32.8		
	GP-16-77	77 ft	1/3/2013	2.18			0.814			0.608			1.72			0.297			2.02			< 2.4	U		0.4	J	
	GP-16-91	91 ft	1/7/2013	0.0488			0.0045			0.004	J		0.0099			0.0029			0.0128			< 0.024	U		< 0.0048	U	
GP-17	GP-17-15	15 ft	1/7/2013	154		J	1.69		J	< 2.7	U	UJ	4.44		J	2.84		J	7.28		J	< 14	U	UJ	3.01		J
	GP-17-15-DUP	15 ft	1/7/2013	391		J	3.04		J	< 7	U	UJ	7.57		J	4.76		J	12.3		J	< 35	U	UJ	4.67	J	J
	GP-17-45	45 ft	1/7/2013	1550			1.45	J	J	3.09	J	J	2.73		J	0.945	J	J	3.68		J	< 21	U	UJ	< 4.1	U	UJ
	GP-17-57	57 ft	1/7/2013	178		J	0.569	J	J	< 5.9	U	UJ	< 2.4	U	UJ	< 2.4	U	UJ	< 2.4	U	UJ	< 30	U	UJ	< 5.9	U	UJ
	GP-17-65	65 ft	1/7/2013	15.4		J	0.41		J	< 0.39	U	UJ	0.934		J	0.23		J	1.16		J	< 2	U	UJ	0.0559	J	J
GP-18	GP-18-21	21 ft	1/8/2013	9.94		J	< 0.72	U	UJ	< 1.8	U	UJ	< 0.72	U	UJ	< 0.72	U	UJ	< 0.72	U	UJ	< 9	U	UJ	< 1.8	U	UJ
	GP-18-37	37 ft	1/8/2013	453			1.13	J	J	< 5.1	U	UJ	2.52		J	0.798	J	J	3.32		J	< 25	U	UJ	< 5.1	U	UJ
	GP-18-53	53 ft	1/8/2013	668			< 2.7	U	UJ	< 6.7	U	UJ	< 2.7	U	UJ	< 2.7	U	UJ	< 2.7	U	UJ	< 34	U	UJ	< 6.7	U	UJ
	GP-18-63	63 ft	1/8/2013	67.8		J	0.243	J	J	< 2.6	U	UJ	1.41		J	< 1.1	U	UJ	1.41		J	< 13	U	UJ	< 2.6	U	UJ

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TABLE 2
Summary of Soil Analytical Results for Detected Constituents
Public Works Yard, Roxana, Illinois

Location	Sample ID	Depth	Sample Date	sec-Butylbenzene			tert-Butylbenzene			Carbon disulfide			Chloroform			Cymene (p-Isopropyltoluene)			1,1-Dichloroethane			1,2-Dichloroethane			2-Hexanone (Methyl N-Butyl Ketone)		
				Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals
GP-14	GP-14-13	13 ft	12/18/2012	< 0.0058	U		< 0.0058	U		< 0.0058	U		< 0.0023	U		< 0.0058	U		< 0.0023	U		< 0.0023	U		< 0.0058	U	
	GP-14-33	33 ft	12/18/2012	< 0.61	U		< 0.61	U		< 0.61	U		< 0.24	U		< 0.61	U		< 0.24	U		< 0.24	U		< 0.61	U	
	GP-14-39	39 ft	12/18/2012	0.205	J		0.143	J		< 0.61	U		< 0.24	U		0.101	J		< 0.24	U		< 0.24	U		< 0.61	U	
	GP-14-45	45 ft	12/18/2012	0.0016	J		0.0011	J		0.0011	J		< 0.002	U		0.00049	J		0.00036	J		< 0.002	U		< 0.0049	U	
GP-15	GP-15-19	19 ft	12/18/2012	1.41			< 1.2	U		< 1.2	U		< 0.5	U		1.79			< 0.5	U		< 0.5	U		< 1.2	U	
	GP-15-29	29 ft	12/18/2012	< 0.0055	U		< 0.0055	U		< 0.0055	U		< 0.0022	U		< 0.0055	U		< 0.0022	U		< 0.0022	U		< 0.0055	U	
	GP-15-37	37 ft	12/18/2012	< 12	U		< 12	U		< 12	U		< 4.9	U		< 12	U		< 4.9	U		< 4.9	U		< 12	U	UJ
	GP-15-37-DUP	37 ft	12/18/2012	0.228	J		< 0.55	U		< 0.55	U		< 0.22	U		0.154	J		< 0.22	U		< 0.22	U		9.73		
	GP-15-47	47 ft	12/18/2012	1.86	J		< 3	U		< 3	U		< 1.2	U		0.301	J		< 1.2	U		< 1.2	U		< 3	U	
	GP-15-55	55 ft	12/18/2012	3.12	J		2.29	J		< 5	U		< 2	U		2.31	J		< 2	U		< 2	U		< 5	U	
	GP-15-74	74 ft	12/21/2012	< 0.57	U		< 0.57	U		< 0.57	U		< 0.23	U		< 0.57	U		< 0.23	U		< 0.23	U		< 0.57	U	UJ
	GP-15-89	89 ft	12/21/2012	< 0.52	U		< 0.52	U		< 0.52	U		< 0.21	U		< 0.52	U		< 0.21	U		< 0.21	U		< 0.52	U	UJ
GP-16	GP-16-23	23 ft	1/3/2013	< 0.0065	U		< 0.0065	U		< 0.0065	U		< 0.0026	U		< 0.0065	U		< 0.0026	U		< 0.0026	U		< 0.0065	U	
	GP-16-42	42 ft	1/3/2013	< 0.57	U		< 0.57	U		< 0.57	U		< 0.23	U		< 0.57	U		< 0.23	U		< 0.23	U		< 0.57	U	UJ
	GP-16-51	51 ft	1/3/2013	0.0308	J		< 0.52	U		< 0.52	U		< 0.21	U		< 0.52	U		< 0.21	U		< 0.21	U		< 0.52	U	UJ
	GP-16-57	57 ft	1/3/2013	4.96			1.69			< 0.52	U		< 0.21	U		3.09			< 0.21	U		11.2		J	< 0.52	U	UJ
	GP-16-57-DUP	57 ft	1/3/2013	5.87			2.25			< 0.59	U		< 0.24	U		3.7			< 0.24	U		< 0.24	U	UJ	19.1		J
	GP-16-77	77 ft	1/3/2013	0.0725	J		< 0.49	U		< 0.49	U		< 0.19	U		0.0518	J		< 0.19	U		< 0.19	U		< 0.49	U	UJ
	GP-16-91	91 ft	1/7/2013	< 0.0048	U		< 0.0048	U		0.00095	J	J	0.00075	J		< 0.0048	U		< 0.0019	U		< 0.0019	U		< 0.0048	U	
GP-17	GP-17-15	15 ft	1/7/2013	0.323	J	J	< 2.7	U	UJ	< 2.7	U	UJ	< 1.1	U	UJ	0.415	J	J	< 1.1	U	UJ	< 1.1	U	UJ	< 2.7	U	UJ
	GP-17-15-DUP	15 ft	1/7/2013	< 7	U	UJ	< 7	U	UJ	< 7	U	UJ	< 2.8	U	UJ	< 7	U	UJ	< 2.8	U	UJ	< 2.8	U	UJ	< 7	U	UJ
	GP-17-45	45 ft	1/7/2013	< 4.1	U	UJ	< 4.1	U	UJ	< 4.1	U	UJ	< 1.6	U	UJ	< 4.1	U	UJ	< 1.6	U	UJ	< 1.6	U	UJ	< 4.1	U	UJ
	GP-17-57	57 ft	1/7/2013	< 5.9	U	UJ	< 5.9	U	UJ	< 5.9	U	UJ	< 2.4	U	UJ	< 5.9	U	UJ	< 2.4	U	UJ	< 2.4	U	UJ	< 5.9	U	UJ
	GP-17-65	65 ft	1/7/2013	< 0.39	U	UJ	< 0.39	U	UJ	< 0.39	U	UJ	< 0.16	U	UJ	< 0.39	U	UJ	< 0.16	U	UJ	< 0.16	U	UJ	< 0.39	U	UJ
GP-18	GP-18-21	21 ft	1/8/2013	< 1.8	U	UJ	< 1.8	U	UJ	< 1.8	U	UJ	< 0.72	U	UJ	< 1.8	U	UJ	< 0.72	U	UJ	< 0.72	U	UJ	< 1.8	U	UJ
	GP-18-37	37 ft	1/8/2013	< 5.1	U	UJ	< 5.1	U	UJ	< 5.1	U	UJ	< 2	U	UJ	< 5.1	U	UJ	< 2	U	UJ	< 2	U	UJ	< 5.1	U	UJ
	GP-18-53	53 ft	1/8/2013	< 6.7	U	UJ	< 6.7	U	UJ	< 6.7	U	UJ	< 2.7	U	UJ	< 6.7	U	UJ	< 2.7	U	UJ	< 2.7	U	UJ	< 6.7	U	UJ
	GP-18-63	63 ft	1/8/2013	< 2.6	U	UJ	< 2.6	U	UJ	< 2.6	U	UJ	< 1.1	U	UJ	< 2.6	U	UJ	< 1.1	U	UJ	< 1.1	U	UJ	< 2.6	U	UJ

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TABLE 2
Summary of Soil Analytical Results for Detected Constituents
Public Works Yard, Roxana, Illinois

Location	Sample ID	Depth	Sample Date	Isopropylbenzene (Cumene)			Methyl tert-Butyl Ether (MTBE)			Naphthalene			n-Propylbenzene			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene			Vinyl acetate		
				Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals
GP-14	GP-14-13	13 ft	12/18/2012	< 0.0058	U		< 0.0023	U		< 0.0058	U		< 0.0058	U		< 0.0058	U		< 0.0058	U		< 0.0058	U	
	GP-14-33	33 ft	12/18/2012	< 0.61	U		< 0.24	U		< 0.61	U		< 0.61	U		< 0.61	U		< 0.61	U		< 0.61	U	
	GP-14-39	39 ft	12/18/2012	0.395	J		< 0.24	U		< 0.61	U		1.29			0.114	J		0.0692	J		0.629		
	GP-14-45	45 ft	12/18/2012	0.0061			< 0.002	U		< 0.0049	U		0.0136			0.00048	J		< 0.0049	U		< 0.0049	U	
GP-15	GP-15-19	19 ft	12/18/2012	1.13	J		< 0.5	U		0.823	J		0.548	J		4.28			2.73			< 1.2	U	
	GP-15-29	29 ft	12/18/2012	< 0.0055	U		< 0.0022	U		< 0.0055	U		< 0.0055	U		0.00065	J		< 0.0055	U		< 0.0055	U	
	GP-15-37	37 ft	12/18/2012	< 12	U		< 4.9	U		< 12	U		< 12	U		7.32	J		2.2	J		< 12	U	
	GP-15-37-DUP	37 ft	12/18/2012	0.438	J		0.653			1.25			1.73			8.43			2.59			0.236	J	
	GP-15-47	47 ft	12/18/2012	< 3	U		< 1.2	U		< 3	U		< 3	U		2.21	J		0.721	J		< 3	U	
	GP-15-55	55 ft	12/18/2012	6.99			< 2	U		19.3			28.3			136			44.3			17.1		
	GP-15-74	74 ft	12/21/2012	< 0.57	U		< 0.23	U		< 0.57	U		< 0.57	U		0.232	J		0.0828	J		< 0.57	U	
	GP-15-89	89 ft	12/21/2012	< 0.52	U		< 0.21	U		< 0.52	U		< 0.52	U		< 0.52	U		< 0.52	U		< 0.52	U	
GP-16	GP-16-23	23 ft	1/3/2013	< 0.0065	U		< 0.0026	U		< 0.0065	U		< 0.0065	U		< 0.0065	U		< 0.0065	U		< 0.0065	U	
	GP-16-42	42 ft	1/3/2013	< 0.57	U		< 0.23	U		< 0.57	U		< 0.57	U		0.292	J		< 0.57	U		< 0.57	U	
	GP-16-51	51 ft	1/3/2013	0.0508	J		< 0.21	U		0.23	J		0.214	J		0.975			0.293	J		< 0.52	U	
	GP-16-57	57 ft	1/3/2013	10.4		J	< 0.21	U		19.9			41.2			192			62			< 0.52	U	
	GP-16-57-DUP	57 ft	1/3/2013	12.7		J	< 0.24	U		24.8			58.8			244			77.7			< 0.59	U	
	GP-16-77	77 ft	1/3/2013	0.128	J		< 0.19	U		0.938			0.506			2.53			0.74			< 0.49	U	
	GP-16-91	91 ft	1/7/2013	0.00039	J		< 0.0019	U		< 0.0048	U		0.0013	J		0.0047	J		0.0017	J		< 0.0048	U	
GP-17	GP-17-15	15 ft	1/7/2013	0.269	J	J	< 1.1	U	UJ	45.3		J	1.74	J	J	16.3		J	3		J	< 2.7	U	UJ
	GP-17-15-DUP	15 ft	1/7/2013	< 7	U	UJ	< 2.8	U	UJ	64.5		J	2.69	J	J	25		J	4.96	J	J	< 7	U	UJ
	GP-17-45	45 ft	1/7/2013	< 4.1	U	UJ	< 1.6	U	UJ	< 4.1	U	UJ	< 4.1	U	UJ	2.67	J	J	0.755	J	J	< 4.1	U	UJ
	GP-17-57	57 ft	1/7/2013	< 5.9	U	UJ	< 2.4	U	UJ	< 5.9	U	UJ	< 5.9	U	UJ	1.06	J	J	< 5.9	U	UJ	< 5.9	U	UJ
	GP-17-65	65 ft	1/7/2013	0.0402	J	J	< 0.16	U	UJ	< 0.39	U	UJ	0.173	J	J	0.675		J	0.19	J	J	< 0.39	U	UJ
GP-18	GP-18-21	21 ft	1/8/2013	< 1.8	U	UJ	< 0.72	U	UJ	< 1.8	U	UJ	< 1.8	U	UJ	< 1.8	U	UJ	< 1.8	U	UJ	< 1.8	U	UJ
	GP-18-37	37 ft	1/8/2013	0.368	J	J	< 2	U	UJ	< 5.1	U	UJ	< 5.1	U	UJ	6.98		J	1.78	J	J	< 5.1	U	UJ
	GP-18-53	53 ft	1/8/2013	< 6.7	U	UJ	< 2.7	U	UJ	< 6.7	U	UJ	< 6.7	U	UJ	1.75	J	J	0.51	J	J	< 6.7	U	UJ
	GP-18-63	63 ft	1/8/2013	0.296	J	J	< 1.1	U	UJ	< 2.6	U	UJ	0.785	J	J	2.69		J	0.731	J	J	< 2.6	U	UJ

Notes

1) Results shown as <#.## indicate that the analyte was not detected.

Lab Qualifiers

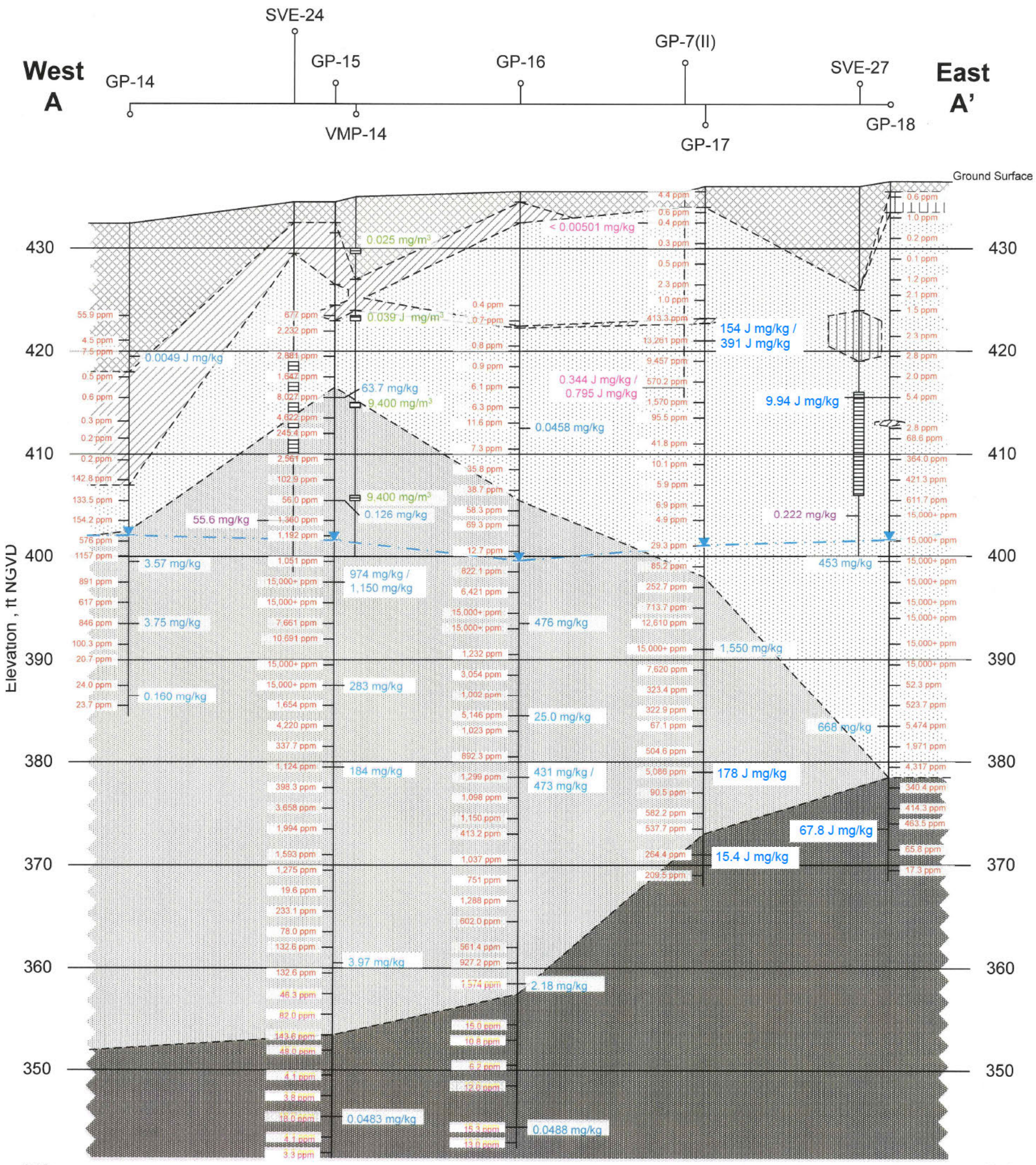
J = The analyte was positively identified below the RL and above the MDL. Concentration given is estimated.

U = The analyte was not detected.

URS Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the given quantitation limit. However, the sample quantitation limit is approximate.



Legend:

Fill projected between borings			Well Screen
Clay projected between borings	9,400 mg/kg		Soil Vapor Sampling Benzene Result (4Q12)
Silt projected between borings	55.6 mg/kg		SVE Well Installation Soil Sampling Benzene Result (3Q11)
Fine to Medium Sand projected between borings	178 mg/kg		GP Soil Sampling Benzene Result ((4Q12/1Q13)
Medium to Coarse Sand projected between borings	0.795 mg/kg		GP Soil Sampling Benzene Result (2Q08)
Coarse Sand with coarse gravel projected between borings	132.6 ppm		GP Soil Sampling Headspace Result (4Q12/1Q13)
Stratum boundary - estimated			Potentiometric Surface – At Time of Drilling ((4Q12/1Q13)

N

VERTICAL SCALE: 0 10

PLAN VIEW AND HORIZONTAL SCALE: 0 50

Notes:
This cross section is generally based on interpretation of borings generated by URS during investigative activities between 2008 through 2013.

Actual geologic conditions may vary between the boring locations depicted.

Cross section trace line shows distance and direction each point was projected to construct this cross section.

J = Result is estimated.

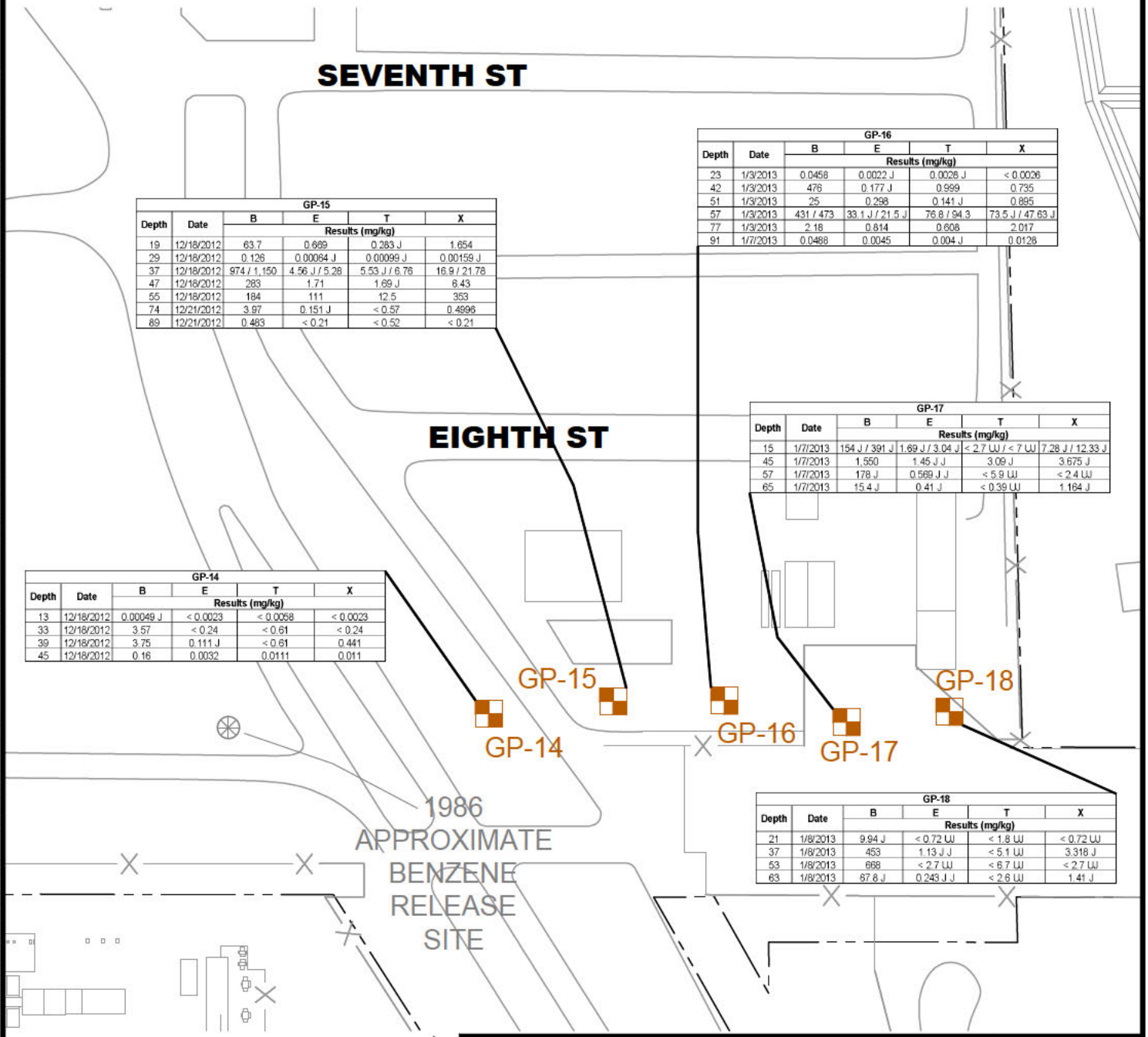
SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562850
AECOM	REVISION 1 MAY 2017
DRN. BY:mpm 02/21/13 DSGN. BY:wmp CHKD. BY:b3	Cross Section A–A' Public Works
	FIG. NO. 3

LEGEND

SOIL BORING LOCATION

NOTES:

1. B = BENZENE; E = ETHYLBENZENE; T = TOLUENE; X = XYLENES (TOTAL).
2. QUALIFIER DEFINITION:
   J = RESULT IS ESTIMATED.
   UJ = RESULT IS NOT DETECTED.



GP-15

Depth	Date	B	E	T	X
		Results (mg/kg)			
19	12/18/2012	63.7	0.669	0.283 J	1.654
29	12/18/2012	0.126	0.00064 J	0.00099 J	0.00159 J
37	12/18/2012	974 / 1,150	4.56 J / 5.28	5.53 J / 6.76	16.9 / 21.78
47	12/18/2012	283	1.71	1.69 J	6.43
55	12/18/2012	184	111	12.5	353
74	12/21/2012	3.97	0.151 J	< 0.57	0.4996
89	12/21/2012	0.483	< 0.21	< 0.52	< 0.21

GP-16

Depth	Date	B	E	T	X
		Results (mg/kg)			
23	1/3/2013	0.0458	0.0022 J	0.0028 J	< 0.0026
42	1/3/2013	476	0.177 J	0.999	0.735
51	1/3/2013	25	0.298	0.141 J	0.895
57	1/3/2013	431 / 473	33.1 J / 21.5 J	76.8 / 94.3	73.5 J / 47.63 J
77	1/3/2013	2.18	0.814	0.608	2.017
91	1/7/2013	0.0488	0.0045	0.004 J	0.0128

GP-17

Depth	Date	B	E	T	X
		Results (mg/kg)			
15	1/7/2013	154 J / 391 J	1.69 J / 3.04 J	< 2.7 UJ / < 7 UJ	7.28 J / 12.33 J
45	1/7/2013	1.550	1.45 J J	3.09 J	3.675 J
57	1/7/2013	178 J	0.569 J J	< 5.9 UJ	< 2.4 UJ
65	1/7/2013	15.4 J	0.41 J	< 0.39 UJ	1.164 J

GP-14

Depth	Date	B	E	T	X
		Results (mg/kg)			
13	12/18/2012	0.00049 J	< 0.0023	< 0.0058	< 0.0023
33	12/18/2012	3.57	< 0.24	< 0.61	< 0.24
39	12/18/2012	3.75	0.111 J	< 0.61	0.441
45	12/18/2012	0.16	0.0032	0.0111	0.011

GP-18

Depth	Date	B	E	T	X
		Results (mg/kg)			
21	1/8/2013	9.94 J	< 0.72 UJ	< 1.8 UJ	< 0.72 UJ
37	1/8/2013	453	1.13 J J	< 5.1 UJ	3.318 J
53	1/8/2013	668	< 2.7 UJ	< 6.7 UJ	< 2.7 UJ
63	1/8/2013	67.8 J	0.243 J J	< 2.6 UJ	1.41 J

0 150
SCALE FEET

N

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
21562850

URS

REVISION 1 MAY 2017

DRN. BY: wmp 2/12/13
DSGN. BY: b3
CHKD. BY: b3

Summary of BTEX
Analytical Results

FIG. NO.
4

File: \\URSSTLOUIS\STLOUIS\PROJECTS\ENVIRONMENTAL\SHELL\ACCUTEST DATA REVIEW\1. DRAFT DELIVERABLES\2013-03-13_PUBLIC WORK YARD SOIL RPT\FIGURES\FIG 4 BTEX SUMMARY.DWG Last edited: MAY 02, 17 @ 11:19 a.m. by: wendy.pennington

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 Drilling, Roxana, IL

21562850.15000

SGS Accutest Job Number: MC16999

Sampling Date: 12/18/12

Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 131

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.

SGS ACCUTEST

October 20, 2016

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

RE: SGS Accutest Job # MC16999

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: MC16999

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC16999-1	12/18/12	09:35 WPBS	12/19/12	SO	Soil	GP-14-13
MC16999-2	12/18/12	09:40 WPBS	12/19/12	SO	Soil	GP-14-33
MC16999-3	12/18/12	10:05 WPBS	12/19/12	SO	Soil	GP-14-39
MC16999-4	12/18/12	09:45 WPBS	12/19/12	SO	Soil	GP-14-45
MC16999-5	12/18/12	00:00 WPBS	12/19/12	AQ	Trip Blank Water	TRIP BLANK
MC16999-6	12/18/12	12:35 WPBS	12/19/12	SO	Soil	GP-15-19
MC16999-7	12/18/12	12:40 WPBS	12/19/12	SO	Soil	GP-15-29
MC16999-8	12/18/12	12:40 WPBS	12/19/12	SO	Soil	GP-15-29 DUP
MC16999-9	12/18/12	12:30 WPBS	12/19/12	SO	Soil	GP-15-37
MC16999-10	12/18/12	14:10 WPBS	12/19/12	SO	Soil	GP-15-47
MC16999-11	12/18/12	14:15 WPBS	12/19/12	SO	Soil	GP-15-55
MC16999-12	12/18/12	12:30 WPBS	12/19/12	SO	Soil	GP-15-37 DUP

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC16999
Site:	URSMOSTL: Roxana Drilling, Roxana, IL	**Report Date**	10/24/2016 11:34:41 A

10 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 12/18/2012 and were received at SGS Accutest New England on 12/19/2012 properly preserved, at 0 8 Deg C and intact These Samples received a job number of MC16999 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 was 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

Matrix: AQ **Batch ID:** MST987

- All samples were analyzed within the recommended method holding time
- Sample(s) MC17058-17MS, MC17058-17MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria
- Blank Spike Recovery(s) for Acrylonitrile, Acrolein are outside control limits
- Matrix Spike Recovery(s) for 2-Chloroethyl vinyl ether, Carbon disulfide, Dichlorodifluoromethane, Acrylonitrile are outside control limits Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits Probable cause due to matrix interference
- MC16999-5 for Acrolein, Acetone: Initial Calibration Verification outside of acceptance criteria Sample result may be biased high
- MST987-BS/BSD for Acrylonitrile: Outside control limits Associated samples are non-detect for this compound
- MC16999-5 for 1,4-Dioxane: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low

Matrix: SO **Batch ID:** MSG4896

- All samples were analyzed within the recommended method holding time
- Sample(s) MC17145-1MS, MC17145-1MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria
- Blank Spike Recovery(s) for Acrolein are outside control limits
- Matrix Spike Recovery(s) for Acrolein are outside control limits Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for Acrolein are outside control limits Probable cause due to matrix interference
- Acrolein: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low

Matrix: SO **Batch ID:** MSG4900

- All samples were analyzed within the recommended method holding time
- Sample(s) MC17098-24MS, MC17098-24MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria
- Blank Spike Recovery(s) for 1,4-Dioxane, Acrolein, Dichlorodifluoromethane are outside control limits
- Matrix Spike Recovery(s) for 1,4-Dioxane, 2-Butanone (MEK), 2-Hexanone, Acetone, Acrolein, Vinyl chloride are outside control limits Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for 2-Butanone (MEK), 2-Hexanone, Acetone, Acrolein, Vinyl chloride are outside control limits Probable cause due to matrix interference
- RPD(s) for MSD for 1,4-Dioxane are outside control limits for sample MC17098-24MSD High RPD due to possible matrix interference and/or sample non-homogeneity
- MC16999-9 for Dichlorodifluoromethane: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low
- MC16999-9 for Acrolein: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** MSG4900

- MC16999-9 for 2-Chloroethyl vinyl ether: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low

Matrix: SO **Batch ID:** MSK2166

- All samples were analyzed within the recommended method holding time
- Sample(s) MC16996-3MS, MC16996-3MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria
- Blank Spike Recovery(s) for 2-Butanone (MEK), Chloromethane, Dichlorodifluoromethane are outside control limits
- Matrix Spike Recovery(s) for 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Acetone, Vinyl chloride are outside control limits Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Acetone, Vinyl chloride are outside control limits Probable cause due to matrix interference
- Acetone, 2-Hexanone, 2-Butanone (MEK): Initial Calibration Verification outside of acceptance criteria Spike Blank(second source standard)was used to verify calibration standard accuracy
- MC16999-3 for 2-Hexanone: Initial Calibration Verification outside of acceptance criteria Spike Blank(second source standard)was used to verify calibration standard accuracy
- MC16999-2, MC16999-6, MC16999-10, MC16999-11 for 2-Hexanone: Initial Calibration Verification outside of acceptance criteria Spike Blank(second source standard)was used to verify calibration standard accuracy
- MC16999-10, MC16999-11 for Acetone: Initial Calibration Verification outside of acceptance criteria Spike Blank(second source standard)was used to verify calibration standard accuracy

Matrix: SO **Batch ID:** MSM1806

- All samples were analyzed within the recommended method holding time
- Sample(s) MC16999-1MS, MC16999-1MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria
- Blank Spike Recovery(s) for Acetone, Chloromethane, Dichlorodifluoromethane are outside control limits
- Matrix Spike Recovery(s) for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Dichlorodifluoromethane, Naphthalene are outside control limits Outside control limits due to possible matrix interference
- Matrix Spike Duplicate Recovery(s) for Chloromethane, Dichlorodifluoromethane are outside control limits Probable cause due to matrix interference
- RPD(s) for MSD for 2-Butanone (MEK), Hexachlorobutadiene are outside control limits for sample MC16999-1MSD High RPD due to possible matrix interference and/or sample non-homogeneity
- Vinyl Acetate: Initial Calibration Verification outside of acceptance criteria Sample result may be biased low
- MSM1806-BS, MC16999-1MS/MSD for Tert Butyl Alcohol-D9: Outside control limits Target analytes not associated with this internal standard

Volatiles by GC By Method SW846 8011

Matrix: AQ **Batch ID:** OP31513

- All samples were extracted within the recommended method holding time
- All samples were analyzed within the recommended method holding time
- Sample(s) MC17000-5MS, MC17000-5MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria

Matrix: SO **Batch ID:** OP31493

- All samples were extracted within the recommended method holding time
- All samples were analyzed within the recommended method holding time
- Sample(s) MC16961-2MS, MC16961-2MSD were used as the QC samples indicated
- All method blanks for this batch meet method specific criteria

Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO	Batch ID: GN41358

- Sample(s) MC17035-1DUP were used as the QC samples for Solids, Percent

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(MC16999)

Summary of Hits

Job Number: MC16999
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 12/18/12

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC16999-1	**GP-14-13**					
Benzene		0.00049 J	0.00058	0.00034	mg/kg	SW846 8260B
MC16999-2	**GP-14-33**					
Benzene		3.57	0.061	0.036	mg/kg	SW846 8260B
n-Butylbenzene		0.0877 J	0.61	0.022	mg/kg	SW846 8260B
MC16999-3	**GP-14-39**					
Benzene		3.75	0.061	0.036	mg/kg	SW846 8260B
n-Butylbenzene		0.754	0.61	0.022	mg/kg	SW846 8260B
sec-Butylbenzene		0.205 J	0.61	0.028	mg/kg	SW846 8260B
tert-Butylbenzene		0.143 J	0.61	0.11	mg/kg	SW846 8260B
Ethylbenzene		0.111 J	0.24	0.029	mg/kg	SW846 8260B
Isopropylbenzene		0.395 J	0.61	0.028	mg/kg	SW846 8260B
p-Isopropyltoluene		0.101 J	0.61	0.022	mg/kg	SW846 8260B
n-Propylbenzene		1.29	0.61	0.12	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.114 J	0.61	0.027	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.0692 J	0.61	0.026	mg/kg	SW846 8260B
Vinyl Acetate		0.629	0.61	0.068	mg/kg	SW846 8260B
m,p-Xylene		0.441	0.24	0.096	mg/kg	SW846 8260B
Xylene (total)		0.441	0.24	0.029	mg/kg	SW846 8260B
MC16999-4	**GP-14-45**					
Benzene		0.160	0.00049	0.00029	mg/kg	SW846 8260B
n-Butylbenzene		0.0024 J	0.0049	0.00018	mg/kg	SW846 8260B
sec-Butylbenzene		0.0016 J	0.0049	0.00022	mg/kg	SW846 8260B
tert-Butylbenzene		0.0011 J	0.0049	0.00086	mg/kg	SW846 8260B
Carbon disulfide		0.0011 J	0.0049	0.00016	mg/kg	SW846 8260B
1,1-Dichloroethane		0.00036 J	0.0020	0.00026	mg/kg	SW846 8260B
Ethylbenzene		0.0032	0.0020	0.00024	mg/kg	SW846 8260B
Isopropylbenzene		0.0061	0.0049	0.00022	mg/kg	SW846 8260B
p-Isopropyltoluene		0.00049 J	0.0049	0.00017	mg/kg	SW846 8260B
n-Propylbenzene		0.0136	0.0049	0.00099	mg/kg	SW846 8260B
Toluene		0.0111	0.0049	0.00083	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.00048 J	0.0049	0.00022	mg/kg	SW846 8260B
m,p-Xylene		0.0080	0.0020	0.00077	mg/kg	SW846 8260B
o-Xylene		0.0026	0.0020	0.00023	mg/kg	SW846 8260B
Xylene (total)		0.0105	0.0020	0.00023	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC16999
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 12/18/12

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC16999-5	**TRIP BLANK**					
Acetone [a]		16.3	5.0	3.0	ug/l	SW846 8260B
MC16999-6	**GP-15-19**					
Benzene		63.7	0.12	0.073	mg/kg	SW846 8260B
n-Butylbenzene		1.58	1.2	0.046	mg/kg	SW846 8260B
sec-Butylbenzene		1.41	1.2	0.057	mg/kg	SW846 8260B
Ethylbenzene		0.669	0.50	0.060	mg/kg	SW846 8260B
Isopropylbenzene		1.13 J	1.2	0.057	mg/kg	SW846 8260B
p-Isopropyltoluene		1.79	1.2	0.044	mg/kg	SW846 8260B
Naphthalene		0.823 J	1.2	0.31	mg/kg	SW846 8260B
n-Propylbenzene		0.548 J	1.2	0.25	mg/kg	SW846 8260B
Toluene		0.283 J	1.2	0.21	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		4.28	1.2	0.056	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		2.73	1.2	0.053	mg/kg	SW846 8260B
m,p-Xylene		1.36	0.50	0.20	mg/kg	SW846 8260B
o-Xylene		0.294 J	0.50	0.060	mg/kg	SW846 8260B
Xylene (total)		1.66	0.50	0.060	mg/kg	SW846 8260B
MC16999-7	**GP-15-29**					
Benzene		0.126	0.00055	0.00033	mg/kg	SW846 8260B
Ethylbenzene		0.00064 J	0.0022	0.00027	mg/kg	SW846 8260B
Toluene		0.00099 J	0.0055	0.00094	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.00065 J	0.0055	0.00025	mg/kg	SW846 8260B
m,p-Xylene		0.0012 J	0.0022	0.00087	mg/kg	SW846 8260B
o-Xylene		0.00039 J	0.0022	0.00027	mg/kg	SW846 8260B
Xylene (total)		0.0016 J	0.0022	0.00027	mg/kg	SW846 8260B
MC16999-9	**GP-15-37**					
Benzene		974	1.2	0.72	mg/kg	SW846 8260B
n-Butylbenzene		1.12 J	12	0.45	mg/kg	SW846 8260B
Ethylbenzene		4.56 J	4.9	0.59	mg/kg	SW846 8260B
Toluene		5.53 J	12	2.1	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		7.32 J	12	0.55	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		2.20 J	12	0.52	mg/kg	SW846 8260B
m,p-Xylene		12.3	4.9	1.9	mg/kg	SW846 8260B
o-Xylene		4.60 J	4.9	0.59	mg/kg	SW846 8260B
Xylene (total)		16.9	4.9	0.59	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC16999
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 12/18/12

3

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC16999-10	**GP-15-47**					
Benzene		283	0.59	0.35	mg/kg	SW846 8260B
n-Butylbenzene		0.347 J	3.0	0.11	mg/kg	SW846 8260B
sec-Butylbenzene		1.86 J	3.0	0.14	mg/kg	SW846 8260B
Ethylbenzene		1.71	1.2	0.14	mg/kg	SW846 8260B
p-Isopropyltoluene		0.301 J	3.0	0.11	mg/kg	SW846 8260B
Toluene		1.69 J	3.0	0.50	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		2.21 J	3.0	0.13	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.721 J	3.0	0.13	mg/kg	SW846 8260B
m,p-Xylene		4.81	1.2	0.47	mg/kg	SW846 8260B
o-Xylene		1.62	1.2	0.14	mg/kg	SW846 8260B
Xylene (total)		6.43	1.2	0.14	mg/kg	SW846 8260B
MC16999-11	**GP-15-55**					
Benzene		184	0.50	0.29	mg/kg	SW846 8260B
n-Butylbenzene		13.9	5.0	0.18	mg/kg	SW846 8260B
sec-Butylbenzene		3.12 J	5.0	0.23	mg/kg	SW846 8260B
tert-Butylbenzene		2.29 J	5.0	0.88	mg/kg	SW846 8260B
Ethylbenzene		111	2.0	0.24	mg/kg	SW846 8260B
Isopropylbenzene		6.99	5.0	0.23	mg/kg	SW846 8260B
p-Isopropyltoluene		2.31 J	5.0	0.18	mg/kg	SW846 8260B
Naphthalene		19.3	5.0	1.2	mg/kg	SW846 8260B
n-Propylbenzene		28.3	5.0	1.0	mg/kg	SW846 8260B
Toluene		12.5	5.0	0.85	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		136	5.0	0.22	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		44.3	5.0	0.21	mg/kg	SW846 8260B
Vinyl Acetate		17.1	5.0	0.56	mg/kg	SW846 8260B
m,p-Xylene		290	2.0	0.79	mg/kg	SW846 8260B
o-Xylene		63.0	2.0	0.24	mg/kg	SW846 8260B
Xylene (total)		353	2.0	0.24	mg/kg	SW846 8260B
MC16999-12	**GP-15-37 DUP**					
Benzene		1150	2.2	1.3	mg/kg	SW846 8260B
n-Butylbenzene		0.864	0.55	0.020	mg/kg	SW846 8260B
sec-Butylbenzene		0.228 J	0.55	0.025	mg/kg	SW846 8260B
Ethylbenzene		5.28	0.22	0.027	mg/kg	SW846 8260B
2-Hexanone [b]		9.73	0.55	0.055	mg/kg	SW846 8260B
Isopropylbenzene		0.438 J	0.55	0.025	mg/kg	SW846 8260B
p-Isopropyltoluene		0.154 J	0.55	0.020	mg/kg	SW846 8260B
Methyl Tert Butyl Ether		0.653	0.22	0.032	mg/kg	SW846 8260B
Naphthalene		1.25	0.55	0.14	mg/kg	SW846 8260B
n-Propylbenzene		1.73	0.55	0.11	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC16999
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 12/18/12

3

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Toluene	6.76	0.55	0.093	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene	8.43	0.55	0.025	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene	2.59	0.55	0.024	mg/kg	SW846 8260B
Vinyl Acetate	0.236 J	0.55	0.062	mg/kg	SW846 8260B
m,p-Xylene	15.7	0.22	0.087	mg/kg	SW846 8260B
o-Xylene	6.08	0.22	0.026	mg/kg	SW846 8260B
Xylene (total)	21.8	0.22	0.026	mg/kg	SW846 8260B

(a) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased high.
(b) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	GP-14-13		
Lab Sample ID:	MC16999-1	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	74.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M53169.D	1	12/28/12	AMY	n/a	n/a	MSM1806
Run #2							

	Initial Weight	Final Volume
Run #1	5.80 g	5.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.0058	0.0015	mg/kg	
107-02-8	Acrolein	ND	0.029	0.012	mg/kg	
107-13-1	Acrylonitrile	ND	0.029	0.0014	mg/kg	
71-43-2	Benzene	0.00049	0.00058	0.00034	mg/kg	J
108-86-1	Bromobenzene	ND	0.0058	0.00026	mg/kg	
74-97-5	Bromochloromethane	ND	0.0058	0.00043	mg/kg	
75-27-4	Bromodichloromethane	ND	0.0023	0.00024	mg/kg	
75-25-2	Bromoform	ND	0.0023	0.0023	mg/kg	
74-83-9	Bromomethane	ND	0.0023	0.00060	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.0058	0.0014	mg/kg	
104-51-8	n-Butylbenzene	ND	0.0058	0.00021	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0058	0.00026	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0058	0.0010	mg/kg	
75-15-0	Carbon disulfide	ND	0.0058	0.00019	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.0023	0.00084	mg/kg	
108-90-7	Chlorobenzene	ND	0.0023	0.00032	mg/kg	
75-00-3	Chloroethane	ND	0.0058	0.0014	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.0058	0.0023	mg/kg	
67-66-3	Chloroform	ND	0.0023	0.00059	mg/kg	
74-87-3	Chloromethane	ND	0.0058	0.00053	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.0058	0.0013	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.0058	0.00026	mg/kg	
124-48-1	Dibromochloromethane	ND	0.0023	0.00034	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.0023	0.00025	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.0023	0.00026	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.0023	0.00024	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.0023	0.0013	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.0023	0.00031	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0023	0.00033	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.0023	0.00042	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.0023	0.00035	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.0023	0.00033	mg/kg	

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:	GP-14-13		
Lab Sample ID:	MC16999-1	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	74.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.0023	0.00043	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.0058	0.00027	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.0058	0.0010	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.0058	0.00030	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0023	0.00020	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0023	0.00057	mg/kg	
123-91-1	1,4-Dioxane	ND	0.029	0.029	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.0058	0.00078	mg/kg	
100-41-4	Ethylbenzene	ND	0.0023	0.00028	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.0058	0.00054	mg/kg	
591-78-6	2-Hexanone	ND	0.0058	0.00058	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0058	0.00026	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.0058	0.00021	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0023	0.00033	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.0058	0.00058	mg/kg	
74-95-3	Methylene bromide	ND	0.0058	0.00057	mg/kg	
75-09-2	Methylene chloride	ND	0.0023	0.0013	mg/kg	
91-20-3	Naphthalene	ND	0.0058	0.0014	mg/kg	
103-65-1	n-Propylbenzene	ND	0.0058	0.0012	mg/kg	
100-42-5	Styrene	ND	0.0058	0.00027	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0058	0.0012	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0023	0.00049	mg/kg	
127-18-4	Tetrachloroethene	ND	0.0023	0.00026	mg/kg	
108-88-3	Toluene	ND	0.0058	0.00098	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.0058	0.00027	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0058	0.00026	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.0023	0.00036	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.0023	0.00085	mg/kg	
79-01-6	Trichloroethene	ND	0.0023	0.00024	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.0023	0.00035	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.0058	0.00034	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0058	0.00026	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0058	0.00025	mg/kg	
108-05-4	Vinyl Acetate [a]	ND	0.0058	0.00064	mg/kg	
75-01-4	Vinyl chloride	ND	0.0023	0.00031	mg/kg	
	m,p-Xylene	ND	0.0023	0.00091	mg/kg	
95-47-6	o-Xylene	ND	0.0023	0.00028	mg/kg	
1330-20-7	Xylene (total)	ND	0.0023	0.00028	mg/kg	

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:	GP-14-13		
Lab Sample ID:	MC16999-1	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	74.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		70-130%
2037-26-5	Toluene-D8	88%		70-130%
460-00-4	4-Bromofluorobenzene	82%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile			mg/kg	

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

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:	GP-14-13		
Lab Sample ID:	MC16999-1	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	74.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20278.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.8 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0033	0.0015	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0033	0.0013	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		61-167%
460-00-4	Bromofluorobenzene (S)	126%		61-167%

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:	GP-14-33		
Lab Sample ID:	MC16999-2	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65937.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123187.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.95 g	10.0 ml	100 ul
Run #2	4.95 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.61	0.15	mg/kg	
107-02-8	Acrolein [b]	ND [c]	3.0	1.2	mg/kg	
107-13-1	Acrylonitrile	ND	3.0	0.15	mg/kg	
71-43-2	Benzene	3.57	0.061	0.036	mg/kg	
108-86-1	Bromobenzene	ND	0.61	0.027	mg/kg	
74-97-5	Bromochloromethane	ND	0.61	0.045	mg/kg	
75-27-4	Bromodichloromethane	ND	0.24	0.026	mg/kg	
75-25-2	Bromoform	ND	0.24	0.24	mg/kg	
74-83-9	Bromomethane	ND	0.24	0.063	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	0.61	0.15	mg/kg	
104-51-8	n-Butylbenzene	0.0877	0.61	0.022	mg/kg	J
135-98-8	sec-Butylbenzene	ND	0.61	0.028	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.61	0.11	mg/kg	
75-15-0	Carbon disulfide	ND	0.61	0.020	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.24	0.088	mg/kg	
108-90-7	Chlorobenzene	ND	0.24	0.033	mg/kg	
75-00-3	Chloroethane	ND	0.61	0.15	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.61	0.24	mg/kg	
67-66-3	Chloroform	ND	0.24	0.063	mg/kg	
74-87-3	Chloromethane	ND	0.61	0.056	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.61	0.13	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.61	0.028	mg/kg	
124-48-1	Dibromochloromethane	ND	0.24	0.036	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.24	0.026	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.24	0.027	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.24	0.026	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.24	0.14	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.24	0.033	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.24	0.035	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.24	0.045	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.24	0.037	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.24	0.035	mg/kg	

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:	GP-14-33		
Lab Sample ID:	MC16999-2	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.24	0.045	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.61	0.028	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.61	0.11	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.61	0.032	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.24	0.021	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.24	0.060	mg/kg	
123-91-1	1,4-Dioxane	ND	3.0	3.0	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.61	0.083	mg/kg	
100-41-4	Ethylbenzene	ND	0.24	0.029	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.61	0.057	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.61	0.061	mg/kg	
98-82-8	Isopropylbenzene	ND	0.61	0.028	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.61	0.022	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.24	0.035	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.61	0.061	mg/kg	
74-95-3	Methylene bromide	ND	0.61	0.060	mg/kg	
75-09-2	Methylene chloride	ND	0.24	0.14	mg/kg	
91-20-3	Naphthalene	ND	0.61	0.15	mg/kg	
103-65-1	n-Propylbenzene	ND	0.61	0.12	mg/kg	
100-42-5	Styrene	ND	0.61	0.028	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.61	0.12	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.24	0.052	mg/kg	
127-18-4	Tetrachloroethene	ND	0.24	0.028	mg/kg	
108-88-3	Toluene	ND	0.61	0.10	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.61	0.029	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.61	0.028	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.24	0.038	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.24	0.089	mg/kg	
79-01-6	Trichloroethene	ND	0.24	0.026	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.24	0.037	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.61	0.036	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.61	0.027	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.61	0.026	mg/kg	
108-05-4	Vinyl Acetate	ND	0.61	0.068	mg/kg	
75-01-4	Vinyl chloride	ND	0.24	0.033	mg/kg	
	m,p-Xylene	ND	0.24	0.096	mg/kg	
95-47-6	o-Xylene	ND	0.24	0.029	mg/kg	
1330-20-7	Xylene (total)	ND	0.24	0.029	mg/kg	

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:	GP-14-33		
Lab Sample ID:	MC16999-2	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	100%	70-130%
2037-26-5	Toluene-D8	105%	96%	70-130%
460-00-4	4-Bromofluorobenzene	103%	91%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-14-33		
Lab Sample ID:	MC16999-2	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	88.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20279.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	101%		61-167%
460-00-4	Bromofluorobenzene (S)	133%		61-167%

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:	GP-14-39		
Lab Sample ID:	MC16999-3	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	85.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65938.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123188.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.17 g	10.0 ml	100 ul
Run #2	5.17 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.61	0.15	mg/kg	
107-02-8	Acrolein [b]	ND [c]	3.0	1.2	mg/kg	
107-13-1	Acrylonitrile	ND	3.0	0.15	mg/kg	
71-43-2	Benzene	3.75	0.061	0.036	mg/kg	
108-86-1	Bromobenzene	ND	0.61	0.027	mg/kg	
74-97-5	Bromochloromethane	ND	0.61	0.046	mg/kg	
75-27-4	Bromodichloromethane	ND	0.24	0.026	mg/kg	
75-25-2	Bromoform	ND	0.24	0.24	mg/kg	
74-83-9	Bromomethane	ND	0.24	0.063	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	0.61	0.15	mg/kg	
104-51-8	n-Butylbenzene	0.754	0.61	0.022	mg/kg	
135-98-8	sec-Butylbenzene	0.205	0.61	0.028	mg/kg	J
98-06-6	tert-Butylbenzene	0.143	0.61	0.11	mg/kg	J
75-15-0	Carbon disulfide	ND	0.61	0.020	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.24	0.089	mg/kg	
108-90-7	Chlorobenzene	ND	0.24	0.034	mg/kg	
75-00-3	Chloroethane	ND	0.61	0.15	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.61	0.24	mg/kg	
67-66-3	Chloroform	ND	0.24	0.063	mg/kg	
74-87-3	Chloromethane	ND	0.61	0.057	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.61	0.13	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.61	0.028	mg/kg	
124-48-1	Dibromochloromethane	ND	0.24	0.036	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.24	0.026	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.24	0.028	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.24	0.026	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.24	0.14	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.24	0.033	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.24	0.035	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.24	0.045	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.24	0.037	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.24	0.035	mg/kg	

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:	GP-14-39		
Lab Sample ID:	MC16999-3	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	85.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.24	0.045	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.61	0.028	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.61	0.11	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.61	0.032	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.24	0.021	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.24	0.061	mg/kg	
123-91-1	1,4-Dioxane	ND	3.0	3.0	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.61	0.083	mg/kg	
100-41-4	Ethylbenzene	0.111	0.24	0.029	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	0.61	0.057	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.61	0.061	mg/kg	
98-82-8	Isopropylbenzene	0.395	0.61	0.028	mg/kg	J
99-87-6	p-Isopropyltoluene	0.101	0.61	0.022	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.24	0.035	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.61	0.061	mg/kg	
74-95-3	Methylene bromide	ND	0.61	0.060	mg/kg	
75-09-2	Methylene chloride	ND	0.24	0.14	mg/kg	
91-20-3	Naphthalene	ND	0.61	0.15	mg/kg	
103-65-1	n-Propylbenzene	1.29	0.61	0.12	mg/kg	
100-42-5	Styrene	ND	0.61	0.029	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.61	0.12	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.24	0.052	mg/kg	
127-18-4	Tetrachloroethene	ND	0.24	0.028	mg/kg	
108-88-3	Toluene	ND	0.61	0.10	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.61	0.029	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.61	0.028	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.24	0.038	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.24	0.090	mg/kg	
79-01-6	Trichloroethene	ND	0.24	0.026	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.24	0.037	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.61	0.036	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.114	0.61	0.027	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0692	0.61	0.026	mg/kg	J
108-05-4	Vinyl Acetate	0.629	0.61	0.068	mg/kg	
75-01-4	Vinyl chloride	ND	0.24	0.033	mg/kg	
	m,p-Xylene	0.441	0.24	0.096	mg/kg	
95-47-6	o-Xylene	ND	0.24	0.029	mg/kg	
1330-20-7	Xylene (total)	0.441	0.24	0.029	mg/kg	

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:	GP-14-39		
Lab Sample ID:	MC16999-3	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	85.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	92%	70-130%
2037-26-5	Toluene-D8	104%	88%	70-130%
460-00-4	4-Bromofluorobenzene	109%	83%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-14-39		
Lab Sample ID:	MC16999-3	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	85.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20280.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	92%		61-167%
460-00-4	Bromofluorobenzene (S)	123%		61-167%

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:	GP-14-45		
Lab Sample ID:	MC16999-4	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M53170.D	1	12/28/12	AMY	n/a	n/a	MSM1806
Run #2							

	Initial Weight	Final Volume
Run #1	5.79 g	5.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.0049	0.0012	mg/kg	
107-02-8	Acrolein	ND	0.024	0.0098	mg/kg	
107-13-1	Acrylonitrile	ND	0.024	0.0012	mg/kg	
71-43-2	Benzene	0.160	0.00049	0.00029	mg/kg	
108-86-1	Bromobenzene	ND	0.0049	0.00022	mg/kg	
74-97-5	Bromochloromethane	ND	0.0049	0.00036	mg/kg	
75-27-4	Bromodichloromethane	ND	0.0020	0.00021	mg/kg	
75-25-2	Bromoform	ND	0.0020	0.0020	mg/kg	
74-83-9	Bromomethane	ND	0.0020	0.00051	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.0049	0.0012	mg/kg	
104-51-8	n-Butylbenzene	0.0024	0.0049	0.00018	mg/kg	J
135-98-8	sec-Butylbenzene	0.0016	0.0049	0.00022	mg/kg	J
98-06-6	tert-Butylbenzene	0.0011	0.0049	0.00086	mg/kg	J
75-15-0	Carbon disulfide	0.0011	0.0049	0.00016	mg/kg	J
56-23-5	Carbon tetrachloride	ND	0.0020	0.00071	mg/kg	
108-90-7	Chlorobenzene	ND	0.0020	0.00027	mg/kg	
75-00-3	Chloroethane	ND	0.0049	0.0012	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.0049	0.0020	mg/kg	
67-66-3	Chloroform	ND	0.0020	0.00050	mg/kg	
74-87-3	Chloromethane	ND	0.0049	0.00045	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.0049	0.0011	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.0049	0.00022	mg/kg	
124-48-1	Dibromochloromethane	ND	0.0020	0.00029	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.0020	0.00021	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.0020	0.00022	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.0020	0.00021	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.0020	0.0011	mg/kg	
75-34-3	1,1-Dichloroethane	0.00036	0.0020	0.00026	mg/kg	J
107-06-2	1,2-Dichloroethane	ND	0.0020	0.00028	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.0020	0.00036	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.0020	0.00029	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.0020	0.00028	mg/kg	

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:	GP-14-45		
Lab Sample ID:	MC16999-4	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.0020	0.00036	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.0049	0.00023	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.0049	0.00085	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.0049	0.00026	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0020	0.00017	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0020	0.00048	mg/kg	
123-91-1	1,4-Dioxane	ND	0.024	0.024	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.0049	0.00067	mg/kg	
100-41-4	Ethylbenzene	0.0032	0.0020	0.00024	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.0049	0.00045	mg/kg	
591-78-6	2-Hexanone	ND	0.0049	0.00049	mg/kg	
98-82-8	Isopropylbenzene	0.0061	0.0049	0.00022	mg/kg	
99-87-6	p-Isopropyltoluene	0.00049	0.0049	0.00017	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.0020	0.00028	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.0049	0.00049	mg/kg	
74-95-3	Methylene bromide	ND	0.0049	0.00048	mg/kg	
75-09-2	Methylene chloride	ND	0.0020	0.0011	mg/kg	
91-20-3	Naphthalene	ND	0.0049	0.0012	mg/kg	
103-65-1	n-Propylbenzene	0.0136	0.0049	0.00099	mg/kg	
100-42-5	Styrene	ND	0.0049	0.00023	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0049	0.00098	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0020	0.00042	mg/kg	
127-18-4	Tetrachloroethene	ND	0.0020	0.00022	mg/kg	
108-88-3	Toluene	0.0111	0.0049	0.00083	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.0049	0.00023	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0049	0.00022	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.0020	0.00031	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.0020	0.00072	mg/kg	
79-01-6	Trichloroethene	ND	0.0020	0.00021	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.0020	0.00030	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.0049	0.00029	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.00048	0.0049	0.00022	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.0049	0.00021	mg/kg	
108-05-4	Vinyl Acetate [a]	ND	0.0049	0.00055	mg/kg	
75-01-4	Vinyl chloride	ND	0.0020	0.00027	mg/kg	
	m,p-Xylene	0.0080	0.0020	0.00077	mg/kg	
95-47-6	o-Xylene	0.0026	0.0020	0.00023	mg/kg	
1330-20-7	Xylene (total)	0.0105	0.0020	0.00023	mg/kg	

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:	GP-14-45		
Lab Sample ID:	MC16999-4	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	88.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
2037-26-5	Toluene-D8	88%		70-130%
460-00-4	4-Bromofluorobenzene	88%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile			mg/kg	

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

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:	GP-14-45		
Lab Sample ID:	MC16999-4	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	88.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20281.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	102%		61-167%
460-00-4	Bromofluorobenzene (S)	124%		61-167%

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:	TRIP BLANK		
Lab Sample ID:	MC16999-5	Date Sampled:	12/18/12
Matrix:	AQ - Trip Blank Water	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T28266.D	1	12/31/12	DFT	n/a	n/a	MST987
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	16.3	5.0	3.0	ug/l	
107-02-8	Acrolein [b]	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	1.3	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	0.61	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	1.3	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:	TRIP BLANK		
Lab Sample ID:	MC16999-5	Date Sampled:	12/18/12
Matrix:	AQ - Trip Blank Water	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, 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 [b]	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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC16999-5	**Date Sampled:**	12/18/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/19/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	119%		70-130%
460-00-4	4-Bromofluorobenzene	114%		70-130%

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

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:	TRIP BLANK		
Lab Sample ID:	MC16999-5	**Date Sampled:**	12/18/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/19/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB45038.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726
Run #2							

	Initial Volume	Final Volume
Run #1	33.9 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	0.011	ug/l	

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

Report of Analysis

Client Sample ID:	GP-15-19		
Lab Sample ID:	MC16999-6	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	95.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65940.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123189.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.28 g	10.0 ml	50.0 ul
Run #2	4.28 g	10.0 ml	50.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	1.2	0.31	mg/kg	
107-02-8	Acrolein [b]	ND [c]	6.2	2.5	mg/kg	
107-13-1	Acrylonitrile	ND	6.2	0.31	mg/kg	
71-43-2	Benzene	63.7	0.12	0.073	mg/kg	
108-86-1	Bromobenzene	ND	1.2	0.055	mg/kg	
74-97-5	Bromochloromethane	ND	1.2	0.093	mg/kg	
75-27-4	Bromodichloromethane	ND	0.50	0.052	mg/kg	
75-25-2	Bromoform	ND	0.50	0.50	mg/kg	
74-83-9	Bromomethane	ND	0.50	0.13	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	1.2	0.31	mg/kg	
104-51-8	n-Butylbenzene	1.58	1.2	0.046	mg/kg	
135-98-8	sec-Butylbenzene	1.41	1.2	0.057	mg/kg	
98-06-6	tert-Butylbenzene	ND	1.2	0.22	mg/kg	
75-15-0	Carbon disulfide	ND	1.2	0.041	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.50	0.18	mg/kg	
108-90-7	Chlorobenzene	ND	0.50	0.068	mg/kg	
75-00-3	Chloroethane	ND	1.2	0.31	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1.2	0.50	mg/kg	
67-66-3	Chloroform	ND	0.50	0.13	mg/kg	
74-87-3	Chloromethane	ND	1.2	0.12	mg/kg	
95-49-8	o-Chlorotoluene	ND	1.2	0.27	mg/kg	
106-43-4	p-Chlorotoluene	ND	1.2	0.056	mg/kg	
124-48-1	Dibromochloromethane	ND	0.50	0.073	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.054	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.056	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.052	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.50	0.28	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.50	0.067	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.50	0.071	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.50	0.091	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.071	mg/kg	

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:	GP-15-19		
Lab Sample ID:	MC16999-6	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	95.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.50	0.092	mg/kg	
142-28-9	1,3-Dichloropropane	ND	1.2	0.057	mg/kg	
594-20-7	2,2-Dichloropropane	ND	1.2	0.22	mg/kg	
563-58-6	1,1-Dichloropropene	ND	1.2	0.065	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.042	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.12	mg/kg	
123-91-1	1,4-Dioxane	ND	6.2	6.2	mg/kg	
97-63-2	Ethyl methacrylate	ND	1.2	0.17	mg/kg	
100-41-4	Ethylbenzene	0.669	0.50	0.060	mg/kg	
87-68-3	Hexachlorobutadiene	ND	1.2	0.12	mg/kg	
591-78-6	2-Hexanone [a]	ND	1.2	0.12	mg/kg	
98-82-8	Isopropylbenzene	1.13	1.2	0.057	mg/kg	J
99-87-6	p-Isopropyltoluene	1.79	1.2	0.044	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.072	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	1.2	0.12	mg/kg	
74-95-3	Methylene bromide	ND	1.2	0.12	mg/kg	
75-09-2	Methylene chloride	ND	0.50	0.29	mg/kg	
91-20-3	Naphthalene	0.823	1.2	0.31	mg/kg	J
103-65-1	n-Propylbenzene	0.548	1.2	0.25	mg/kg	J
100-42-5	Styrene	ND	1.2	0.058	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.2	0.25	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.11	mg/kg	
127-18-4	Tetrachloroethene	ND	0.50	0.057	mg/kg	
108-88-3	Toluene	0.283	1.2	0.21	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	1.2	0.059	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.2	0.057	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.078	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.18	mg/kg	
79-01-6	Trichloroethene	ND	0.50	0.053	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.50	0.075	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.2	0.073	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	4.28	1.2	0.056	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	2.73	1.2	0.053	mg/kg	
108-05-4	Vinyl Acetate	ND	1.2	0.14	mg/kg	
75-01-4	Vinyl chloride	ND	0.50	0.068	mg/kg	
	m,p-Xylene	1.36	0.50	0.20	mg/kg	
95-47-6	o-Xylene	0.294	0.50	0.060	mg/kg	J
1330-20-7	Xylene (total)	1.66	0.50	0.060	mg/kg	

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:	GP-15-19		
Lab Sample ID:	MC16999-6	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	95.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	92%	70-130%
2037-26-5	Toluene-D8	111%	88%	70-130%
460-00-4	4-Bromofluorobenzene	119%	83%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-15-19		
Lab Sample ID:	MC16999-6	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	95.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20285.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0026	0.0011	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0026	0.00099	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	98%		61-167%
460-00-4	Bromofluorobenzene (S)	117%		61-167%

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:	GP-15-29		
Lab Sample ID:	MC16999-7	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	96.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M53171.D	1	12/28/12	AMY	n/a	n/a	MSM1806
Run #2							

	Initial Weight	Final Volume
Run #1	4.68 g	5.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.0055	0.0014	mg/kg	
107-02-8	Acrolein	ND	0.028	0.011	mg/kg	
107-13-1	Acrylonitrile	ND	0.028	0.0014	mg/kg	
71-43-2	Benzene	0.126	0.00055	0.00033	mg/kg	
108-86-1	Bromobenzene	ND	0.0055	0.00025	mg/kg	
74-97-5	Bromochloromethane	ND	0.0055	0.00041	mg/kg	
75-27-4	Bromodichloromethane	ND	0.0022	0.00023	mg/kg	
75-25-2	Bromoform	ND	0.0022	0.0022	mg/kg	
74-83-9	Bromomethane	ND	0.0022	0.00058	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.0055	0.0014	mg/kg	
104-51-8	n-Butylbenzene	ND	0.0055	0.00020	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0055	0.00025	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0055	0.00098	mg/kg	
75-15-0	Carbon disulfide	ND	0.0055	0.00018	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.0022	0.00081	mg/kg	
108-90-7	Chlorobenzene	ND	0.0022	0.00031	mg/kg	
75-00-3	Chloroethane	ND	0.0055	0.0014	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.0055	0.0022	mg/kg	
67-66-3	Chloroform	ND	0.0022	0.00057	mg/kg	
74-87-3	Chloromethane	ND	0.0055	0.00051	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.0055	0.0012	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.0055	0.00025	mg/kg	
124-48-1	Dibromochloromethane	ND	0.0022	0.00033	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.0022	0.00024	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.0022	0.00025	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.0022	0.00023	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.0022	0.0013	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.0022	0.00030	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0022	0.00032	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.0022	0.00041	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.0022	0.00033	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.0022	0.00032	mg/kg	

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:	GP-15-29		
Lab Sample ID:	MC16999-7	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	96.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.0022	0.00041	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.0055	0.00026	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.0055	0.00096	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.0055	0.00029	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0022	0.00019	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0022	0.00055	mg/kg	
123-91-1	1,4-Dioxane	ND	0.028	0.028	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.0055	0.00076	mg/kg	
100-41-4	Ethylbenzene	0.00064	0.0022	0.00027	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	0.0055	0.00052	mg/kg	
591-78-6	2-Hexanone	ND	0.0055	0.00055	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0055	0.00025	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.0055	0.00020	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0022	0.00032	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.0055	0.00055	mg/kg	
74-95-3	Methylene bromide	ND	0.0055	0.00055	mg/kg	
75-09-2	Methylene chloride	ND	0.0022	0.0013	mg/kg	
91-20-3	Naphthalene	ND	0.0055	0.0014	mg/kg	
103-65-1	n-Propylbenzene	ND	0.0055	0.0011	mg/kg	
100-42-5	Styrene	ND	0.0055	0.00026	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0055	0.0011	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0022	0.00047	mg/kg	
127-18-4	Tetrachloroethene	ND	0.0022	0.00025	mg/kg	
108-88-3	Toluene	0.00099	0.0055	0.00094	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	0.0055	0.00026	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0055	0.00025	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.0022	0.00035	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.0022	0.00081	mg/kg	
79-01-6	Trichloroethene	ND	0.0022	0.00023	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.0022	0.00034	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.0055	0.00032	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.00065	0.0055	0.00025	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.0055	0.00024	mg/kg	
108-05-4	Vinyl Acetate [a]	ND	0.0055	0.00062	mg/kg	
75-01-4	Vinyl chloride	ND	0.0022	0.00030	mg/kg	
	m,p-Xylene	0.0012	0.0022	0.00087	mg/kg	J
95-47-6	o-Xylene	0.00039	0.0022	0.00027	mg/kg	J
1330-20-7	Xylene (total)	0.0016	0.0022	0.00027	mg/kg	J

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:	GP-15-29		
Lab Sample ID:	MC16999-7	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	96.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%
2037-26-5	Toluene-D8	87%		70-130%
460-00-4	4-Bromofluorobenzene	82%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile			mg/kg	

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

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:	GP-15-29		
Lab Sample ID:	MC16999-7	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	96.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20282.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0026	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0026	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	104%		61-167%
460-00-4	Bromofluorobenzene (S)	135%		61-167%

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:	GP-15-37		
Lab Sample ID:	MC16999-9	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123333.D	1	12/31/12	AMY	n/a	n/a	MSG4900
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.95 g	10.0 ml	5.0 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	3.1	mg/kg	
107-02-8	Acrolein [a]	ND	61	24	mg/kg	
107-13-1	Acrylonitrile	ND	61	3.1	mg/kg	
71-43-2	Benzene	974	1.2	0.72	mg/kg	
108-86-1	Bromobenzene	ND	12	0.55	mg/kg	
74-97-5	Bromochloromethane	ND	12	0.91	mg/kg	
75-27-4	Bromodichloromethane	ND	4.9	0.52	mg/kg	
75-25-2	Bromoform	ND	4.9	4.9	mg/kg	
74-83-9	Bromomethane	ND	4.9	1.3	mg/kg	
78-93-3	2-Butanone (MEK)	ND	12	3.1	mg/kg	
104-51-8	n-Butylbenzene	1.12	12	0.45	mg/kg	J
135-98-8	sec-Butylbenzene	ND	12	0.56	mg/kg	
98-06-6	tert-Butylbenzene	ND	12	2.2	mg/kg	
75-15-0	Carbon disulfide	ND	12	0.40	mg/kg	
56-23-5	Carbon tetrachloride	ND	4.9	1.8	mg/kg	
108-90-7	Chlorobenzene	ND	4.9	0.67	mg/kg	
75-00-3	Chloroethane	ND	12	3.1	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [a]	ND	12	4.9	mg/kg	
67-66-3	Chloroform	ND	4.9	1.3	mg/kg	
74-87-3	Chloromethane	ND	12	1.1	mg/kg	
95-49-8	o-Chlorotoluene	ND	12	2.7	mg/kg	
106-43-4	p-Chlorotoluene	ND	12	0.55	mg/kg	
124-48-1	Dibromochloromethane	ND	4.9	0.72	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	4.9	0.53	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	4.9	0.55	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	4.9	0.52	mg/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	4.9	2.8	mg/kg	
75-34-3	1,1-Dichloroethane	ND	4.9	0.66	mg/kg	
107-06-2	1,2-Dichloroethane	ND	4.9	0.70	mg/kg	
75-35-4	1,1-Dichloroethene	ND	4.9	0.90	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	4.9	0.74	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	4.9	0.70	mg/kg	

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:	GP-15-37		
Lab Sample ID:	MC16999-9	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	4.9	0.91	mg/kg	
142-28-9	1,3-Dichloropropane	ND	12	0.57	mg/kg	
594-20-7	2,2-Dichloropropane	ND	12	2.1	mg/kg	
563-58-6	1,1-Dichloropropene	ND	12	0.64	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.9	0.42	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.9	1.2	mg/kg	
123-91-1	1,4-Dioxane	ND	61	61	mg/kg	
97-63-2	Ethyl methacrylate	ND	12	1.7	mg/kg	
100-41-4	Ethylbenzene	4.56	4.9	0.59	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	12	1.1	mg/kg	
591-78-6	2-Hexanone	ND	12	1.2	mg/kg	
98-82-8	Isopropylbenzene	ND	12	0.56	mg/kg	
99-87-6	p-Isopropyltoluene	ND	12	0.44	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.9	0.71	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	12	1.2	mg/kg	
74-95-3	Methylene bromide	ND	12	1.2	mg/kg	
75-09-2	Methylene chloride	ND	4.9	2.8	mg/kg	
91-20-3	Naphthalene	ND	12	3.1	mg/kg	
103-65-1	n-Propylbenzene	ND	12	2.5	mg/kg	
100-42-5	Styrene	ND	12	0.57	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	12	2.4	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.9	1.0	mg/kg	
127-18-4	Tetrachloroethene	ND	4.9	0.56	mg/kg	
108-88-3	Toluene	5.53	12	2.1	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	12	0.58	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	12	0.56	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.9	0.77	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.9	1.8	mg/kg	
79-01-6	Trichloroethene	ND	4.9	0.52	mg/kg	
75-69-4	Trichlorofluoromethane	ND	4.9	0.74	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	12	0.72	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	7.32	12	0.55	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	2.20	12	0.52	mg/kg	J
108-05-4	Vinyl Acetate	ND	12	1.4	mg/kg	
75-01-4	Vinyl chloride	ND	4.9	0.67	mg/kg	
	m,p-Xylene	12.3	4.9	1.9	mg/kg	
95-47-6	o-Xylene	4.60	4.9	0.59	mg/kg	J
1330-20-7	Xylene (total)	16.9	4.9	0.59	mg/kg	

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:	GP-15-37		
Lab Sample ID:	MC16999-9	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-130%
2037-26-5	Toluene-D8	80%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile			mg/kg	

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

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:	GP-15-37		
Lab Sample ID:	MC16999-9	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20283.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		61-167%
460-00-4	Bromofluorobenzene (S)	125%		61-167%

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:	GP-15-47		
Lab Sample ID:	MC16999-10	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65942.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123191.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.1 g	10.0 ml	10.0 ul
Run #2	11.1 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	3.0	0.75	mg/kg	
107-02-8	Acrolein [b]	ND [c]	30	12	mg/kg	
107-13-1	Acrylonitrile	ND	15	0.74	mg/kg	
71-43-2	Benzene	283 [c]	0.59	0.35	mg/kg	
108-86-1	Bromobenzene	ND	3.0	0.13	mg/kg	
74-97-5	Bromochloromethane	ND	3.0	0.22	mg/kg	
75-27-4	Bromodichloromethane	ND	1.2	0.13	mg/kg	
75-25-2	Bromoform	ND	1.2	1.2	mg/kg	
74-83-9	Bromomethane	ND	1.2	0.31	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	3.0	0.74	mg/kg	
104-51-8	n-Butylbenzene	0.347	3.0	0.11	mg/kg	J
135-98-8	sec-Butylbenzene	1.86	3.0	0.14	mg/kg	J
98-06-6	tert-Butylbenzene	ND	3.0	0.52	mg/kg	
75-15-0	Carbon disulfide	ND	3.0	0.098	mg/kg	
56-23-5	Carbon tetrachloride	ND	1.2	0.43	mg/kg	
108-90-7	Chlorobenzene	ND	1.2	0.16	mg/kg	
75-00-3	Chloroethane	ND	3.0	0.75	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	3.0	1.2	mg/kg	
67-66-3	Chloroform	ND	1.2	0.31	mg/kg	
74-87-3	Chloromethane	ND	3.0	0.28	mg/kg	
95-49-8	o-Chlorotoluene	ND	3.0	0.66	mg/kg	
106-43-4	p-Chlorotoluene	ND	3.0	0.13	mg/kg	
124-48-1	Dibromochloromethane	ND	1.2	0.18	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.13	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.2	0.13	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.13	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	1.2	0.68	mg/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.16	mg/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.17	mg/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.22	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	0.18	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.17	mg/kg	

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:	GP-15-47		
Lab Sample ID:	MC16999-10	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.2	0.22	mg/kg	
142-28-9	1,3-Dichloropropane	ND	3.0	0.14	mg/kg	
594-20-7	2,2-Dichloropropane	ND	3.0	0.52	mg/kg	
563-58-6	1,1-Dichloropropene	ND	3.0	0.16	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.2	0.10	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.2	0.29	mg/kg	
123-91-1	1,4-Dioxane	ND	15	15	mg/kg	
97-63-2	Ethyl methacrylate	ND	3.0	0.40	mg/kg	
100-41-4	Ethylbenzene	1.71	1.2	0.14	mg/kg	
87-68-3	Hexachlorobutadiene	ND	3.0	0.28	mg/kg	
591-78-6	2-Hexanone [a]	ND	3.0	0.30	mg/kg	
98-82-8	Isopropylbenzene	ND	3.0	0.14	mg/kg	
99-87-6	p-Isopropyltoluene	0.301	3.0	0.11	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.17	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	3.0	0.30	mg/kg	
74-95-3	Methylene bromide	ND	3.0	0.29	mg/kg	
75-09-2	Methylene chloride	ND	1.2	0.69	mg/kg	
91-20-3	Naphthalene	ND	3.0	0.74	mg/kg	
103-65-1	n-Propylbenzene	ND	3.0	0.60	mg/kg	
100-42-5	Styrene	ND	3.0	0.14	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	3.0	0.59	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.2	0.25	mg/kg	
127-18-4	Tetrachloroethene	ND	1.2	0.14	mg/kg	
108-88-3	Toluene	1.69	3.0	0.50	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	3.0	0.14	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	3.0	0.14	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.2	0.19	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.2	0.44	mg/kg	
79-01-6	Trichloroethene	ND	1.2	0.13	mg/kg	
75-69-4	Trichlorofluoromethane	ND	1.2	0.18	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	3.0	0.17	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	2.21	3.0	0.13	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.721	3.0	0.13	mg/kg	J
108-05-4	Vinyl Acetate	ND	3.0	0.33	mg/kg	
75-01-4	Vinyl chloride	ND	1.2	0.16	mg/kg	
	m,p-Xylene	4.81	1.2	0.47	mg/kg	
95-47-6	o-Xylene	1.62	1.2	0.14	mg/kg	
1330-20-7	Xylene (total)	6.43	1.2	0.14	mg/kg	

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:	GP-15-47		
Lab Sample ID:	MC16999-10	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	93%	70-130%
2037-26-5	Toluene-D8	108%	89%	70-130%
460-00-4	4-Bromofluorobenzene	103%	86%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-15-47		
Lab Sample ID:	MC16999-10	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20287.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	98%		61-167%
460-00-4	Bromofluorobenzene (S)	129%		61-167%

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:	GP-15-55		
Lab Sample ID:	MC16999-11	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	86.5
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65941.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123190.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	3.02 g	10.0 ml	20.0 ul
Run #2	3.02 g	10.0 ml	20.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	5.0	1.3	mg/kg	
107-02-8	Acrolein [b]	ND [c]	25	10	mg/kg	
107-13-1	Acrylonitrile	ND	25	1.2	mg/kg	
71-43-2	Benzene	184	0.50	0.29	mg/kg	
108-86-1	Bromobenzene	ND	5.0	0.22	mg/kg	
74-97-5	Bromochloromethane	ND	5.0	0.37	mg/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.21	mg/kg	
75-25-2	Bromoform	ND	2.0	2.0	mg/kg	
74-83-9	Bromomethane	ND	2.0	0.52	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	5.0	1.2	mg/kg	
104-51-8	n-Butylbenzene	13.9	5.0	0.18	mg/kg	
135-98-8	sec-Butylbenzene	3.12	5.0	0.23	mg/kg	J
98-06-6	tert-Butylbenzene	2.29	5.0	0.88	mg/kg	J
75-15-0	Carbon disulfide	ND	5.0	0.16	mg/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.72	mg/kg	
108-90-7	Chlorobenzene	ND	2.0	0.27	mg/kg	
75-00-3	Chloroethane	ND	5.0	1.3	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.0	mg/kg	
67-66-3	Chloroform	ND	2.0	0.51	mg/kg	
74-87-3	Chloromethane	ND	5.0	0.46	mg/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	mg/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.23	mg/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.29	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.22	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.22	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.21	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.1	mg/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.27	mg/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.29	mg/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	0.37	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	mg/kg	

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:	GP-15-55		
Lab Sample ID:	MC16999-11	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	86.5
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.37	mg/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.23	mg/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.86	mg/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.26	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.17	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.49	mg/kg	
123-91-1	1,4-Dioxane	ND	25	25	mg/kg	
97-63-2	Ethyl methacrylate	ND	5.0	0.68	mg/kg	
100-41-4	Ethylbenzene	111	2.0	0.24	mg/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.46	mg/kg	
591-78-6	2-Hexanone [a]	ND	5.0	0.50	mg/kg	
98-82-8	Isopropylbenzene	6.99	5.0	0.23	mg/kg	
99-87-6	p-Isopropyltoluene	2.31	5.0	0.18	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.29	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.50	mg/kg	
74-95-3	Methylene bromide	ND	5.0	0.49	mg/kg	
75-09-2	Methylene chloride	ND	2.0	1.2	mg/kg	
91-20-3	Naphthalene	19.3	5.0	1.2	mg/kg	
103-65-1	n-Propylbenzene	28.3	5.0	1.0	mg/kg	
100-42-5	Styrene	ND	5.0	0.23	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.42	mg/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.23	mg/kg	
108-88-3	Toluene	12.5	5.0	0.85	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.24	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.23	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.31	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.73	mg/kg	
79-01-6	Trichloroethene	ND	2.0	0.21	mg/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	0.30	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.29	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	136	5.0	0.22	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	44.3	5.0	0.21	mg/kg	
108-05-4	Vinyl Acetate	17.1	5.0	0.56	mg/kg	
75-01-4	Vinyl chloride	ND	2.0	0.27	mg/kg	
	m,p-Xylene	290	2.0	0.79	mg/kg	
95-47-6	o-Xylene	63.0	2.0	0.24	mg/kg	
1330-20-7	Xylene (total)	353	2.0	0.24	mg/kg	

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:	GP-15-55		
Lab Sample ID:	MC16999-11	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	86.5
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	90%	70-130%
2037-26-5	Toluene-D8	107%	87%	70-130%
460-00-4	4-Bromofluorobenzene	107%	85%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-15-55		
Lab Sample ID:	MC16999-11	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	86.5
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20288.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	96%		61-167%
460-00-4	Bromofluorobenzene (S)	128%		61-167%

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:	GP-15-37 DUP		
Lab Sample ID:	MC16999-12	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K65939.D	1	12/21/12	GK	n/a	n/a	MSK2166
Run #2	G123204.D	1	12/26/12	JM	n/a	n/a	MSG4896

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.54 g	10.0 ml	100 ul
Run #2	5.54 g	10.0 ml	2.5 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.55	0.14	mg/kg	
107-02-8	Acrolein [b]	ND [c]	110	44	mg/kg	
107-13-1	Acrylonitrile	ND	2.8	0.14	mg/kg	
71-43-2	Benzene	1150 [c]	2.2	1.3	mg/kg	
108-86-1	Bromobenzene	ND	0.55	0.025	mg/kg	
74-97-5	Bromochloromethane	ND	0.55	0.041	mg/kg	
75-27-4	Bromodichloromethane	ND	0.22	0.023	mg/kg	
75-25-2	Bromoform	ND	0.22	0.22	mg/kg	
74-83-9	Bromomethane	ND	0.22	0.057	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	0.55	0.14	mg/kg	
104-51-8	n-Butylbenzene	0.864	0.55	0.020	mg/kg	
135-98-8	sec-Butylbenzene	0.228	0.55	0.025	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.55	0.097	mg/kg	
75-15-0	Carbon disulfide	ND	0.55	0.018	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.22	0.080	mg/kg	
108-90-7	Chlorobenzene	ND	0.22	0.030	mg/kg	
75-00-3	Chloroethane	ND	0.55	0.14	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.55	0.22	mg/kg	
67-66-3	Chloroform	ND	0.22	0.057	mg/kg	
74-87-3	Chloromethane	ND	0.55	0.051	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.55	0.12	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.55	0.025	mg/kg	
124-48-1	Dibromochloromethane	ND	0.22	0.033	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.22	0.024	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.22	0.025	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.22	0.023	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.22	0.13	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.22	0.030	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.22	0.032	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.22	0.040	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.22	0.033	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.22	0.032	mg/kg	

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:	GP-15-37 DUP		
Lab Sample ID:	MC16999-12	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.22	0.041	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.55	0.025	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.55	0.096	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.55	0.029	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.22	0.019	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.22	0.055	mg/kg	
123-91-1	1,4-Dioxane	ND	2.8	2.8	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.55	0.075	mg/kg	
100-41-4	Ethylbenzene	5.28	0.22	0.027	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.55	0.051	mg/kg	
591-78-6	2-Hexanone [a]	9.73	0.55	0.055	mg/kg	
98-82-8	Isopropylbenzene	0.438	0.55	0.025	mg/kg	J
99-87-6	p-Isopropyltoluene	0.154	0.55	0.020	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	0.653	0.22	0.032	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.55	0.055	mg/kg	
74-95-3	Methylene bromide	ND	0.55	0.054	mg/kg	
75-09-2	Methylene chloride	ND	0.22	0.13	mg/kg	
91-20-3	Naphthalene	1.25	0.55	0.14	mg/kg	
103-65-1	n-Propylbenzene	1.73	0.55	0.11	mg/kg	
100-42-5	Styrene	ND	0.55	0.026	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.55	0.11	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.22	0.047	mg/kg	
127-18-4	Tetrachloroethene	ND	0.22	0.025	mg/kg	
108-88-3	Toluene	6.76	0.55	0.093	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.55	0.026	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.55	0.025	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.22	0.035	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.22	0.081	mg/kg	
79-01-6	Trichloroethene	ND	0.22	0.023	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.22	0.033	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.55	0.032	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	8.43	0.55	0.025	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	2.59	0.55	0.024	mg/kg	
108-05-4	Vinyl Acetate	0.236	0.55	0.062	mg/kg	J
75-01-4	Vinyl chloride	ND	0.22	0.030	mg/kg	
	m,p-Xylene	15.7	0.22	0.087	mg/kg	
95-47-6	o-Xylene	6.08	0.22	0.026	mg/kg	
1330-20-7	Xylene (total)	21.8	0.22	0.026	mg/kg	

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:	GP-15-37 DUP		
Lab Sample ID:	MC16999-12	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8260B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	91%	70-130%
2037-26-5	Toluene-D8	112%	85%	70-130%
460-00-4	4-Bromofluorobenzene	108%	83%	70-130%

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

(a) Initial Calibration Verification outside of acceptance criteria. Spike Blank(second source standard)was used to verify calibration standard accuracy.
(b) Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
(c) 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

Client Sample ID:	GP-15-37 DUP		
Lab Sample ID:	MC16999-12	Date Sampled:	12/18/12
Matrix:	SO - Soil	Date Received:	12/19/12
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20286.D	1	12/28/12	AP	12/20/12	OP31493	GBK733
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		61-167%
460-00-4	Bromofluorobenzene (S)	123%		61-167%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # MC16999

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel | E-mail:
Phone # | Fax #:
Sampler(s) Name(s): W Pennington, J. Stauffer, B Smith | Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City: Roxana, IL
Project # 215602850.15000
Client PO#:
Project Manager: D. Palmer

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Preservatives: Field pH	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	Encore	Sodium Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-1	GP-14-13		12/18/12	0935	WP/JS/BS	SO	4					X		X		X	X	X	
-2	GP-14-33			0940								X		X		X	X	X	
-3	GP-14-39			1005								X		X		X	X	X	
-4	GP-14-45			0945								X		X		X	X	X	
-5	Trip Blank																X	X	
-6	GP-15-19			1235								X		X		X	X	X	
-7	GP-15-29			1240								X		X		X	X	X	
-8	~~GP-15-29 Dup~~			~~1240~~								~~X~~		~~X~~		~~X~~	~~X~~	~~X~~	
-9	GP-15-~~39~~ 37			1230								X		X		X	X	X	11C, 10A2
-10	GP-15-47			1410								X		X		X	X	X	4L3
-11	GP-15-55			1415								X		X		X	X	X	
-12	GP-15-37Dup			1230								X		X		X	X	X	

Turnaround Time (Business days)
- [X] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM) / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [X] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

REVISED 12/20/12 [illegible]

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time	Received By	Relinquished By	Date Time	Received By
1 [signature]	12/18/12 1500	1 Fed Ex	2 Fedex	12-19-12 1000	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [✓] Cooler Temp. 0.8°

5.1 5

MC16999: Chain of Custody
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ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: MC16999

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel
E-mail:
Phone #:
Fax #:
Sampler(s) Name(s): W. Pennington J. Stalter B. Smith
Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City: Roxana, IL
Project#: 21562850.15000
Client PO#:
Project Manager: D. Palmer

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:
Attention:
PO#:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-1	GP-14-13		12/18/12	0935	WP/JS/BS	SO	4					X		X		X	X	X	
-2	GP-14-33			0940								X		X		X	X	X	
-3	GP-14-39			1005								X		X		X	X	X	
-4	GP-14-45			0945								X		X		X	X	X	
-5	Trip Blank																X	X	
-6	GP-15-19			1235								X		X		X	X	X	
-7	GP-15-29			1240								X		X		X	X	X	
-8	GP-15-29 Dup			1240								X		X		X	X	X	
-9	GP-15-39			1230								X		X		X	X	X	11C,10A2
-10	GP-15-47			1410								X		X		X	X	X	4L3
-11	GP-15-55			1415								X		X		X	X	X	

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [x] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 W. Pennington	12/18/12 1500	1 Fed Ex	2 Fedex	10:00 12-19-12	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice [x] Cooler Temp. 0.8°

5.1 5

MC16999: Chain of Custody
Page 2 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC16999 **Client:** URS **Immediate Client Services Action Required:** Yes

Date / Time Received: 12/19/2012 10:00 **Delivery Method:** FedEx

Project: ROXANA DRILLING **No. Coolers:** 1 **Airbill #'s:**

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control .Preservation	Y	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	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

-8 was not received.
-9 was not received, we received a set of samples with D GP-15-37 with the time 12:30.
-12 we received GP-15-37 DUP not listed on coc.

Accutest Laboratories
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F: 508.481.7753

Marlborough, MA
www/accutest.com

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC16999

CSR: Jeremy Vienneau **Response Date:** 12/20/2012

Response: Client sent a revised COC with corrections. See email in file.

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC16999

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC16999-1 Collected: 18-DEC-12 09:35 By: WPBS Received: 19-DEC-12 By: GP-14-13						
MC16999-1	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-1	SW846 8260B	28-DEC-12 14:25	AMY			V8260SL+
MC16999-1	SW846 8011	28-DEC-12 16:16	AP	19-DEC-12	BJ	V8011SL
MC16999-2 Collected: 18-DEC-12 09:40 By: WPBS Received: 19-DEC-12 By: GP-14-33						
MC16999-2	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-2	SW846 8260B	21-DEC-12 18:40	GK			V8260SL+
MC16999-2	SW846 8260B	26-DEC-12 11:22	JM			V8260SL+
MC16999-2	SW846 8011	28-DEC-12 16:40	AP	19-DEC-12	BJ	V8011SL
MC16999-3 Collected: 18-DEC-12 10:05 By: WPBS Received: 19-DEC-12 By: GP-14-39						
MC16999-3	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-3	SW846 8260B	21-DEC-12 19:07	GK			V8260SL+
MC16999-3	SW846 8260B	26-DEC-12 11:51	JM			V8260SL+
MC16999-3	SW846 8011	28-DEC-12 17:04	AP	19-DEC-12	BJ	V8011SL
MC16999-4 Collected: 18-DEC-12 09:45 By: WPBS Received: 19-DEC-12 By: GP-14-45						
MC16999-4	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-4	SW846 8260B	28-DEC-12 14:56	AMY			V8260SL+
MC16999-4	SW846 8011	28-DEC-12 17:29	AP	19-DEC-12	BJ	V8011SL
MC16999-5 Collected: 18-DEC-12 00:00 By: WPBS Received: 19-DEC-12 By: TRIP BLANK						
MC16999-5	SW846 8011	21-DEC-12 23:04	CZ	21-DEC-12	BJ	V8011SL
MC16999-5	SW846 8260B	31-DEC-12 23:46	DFT			V8260SL+
MC16999-6 Collected: 18-DEC-12 12:35 By: WPBS Received: 19-DEC-12 By: GP-15-19						
MC16999-6	SM21 2540 B MOD.	21-DEC-12	MA			%SOL

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC16999

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC16999-6	SW846 8260B	21-DEC-12 20:02	GK			V8260SL+
MC16999-6	SW846 8260B	26-DEC-12 12:20	JM			V8260SL+
MC16999-6	SW846 8011	28-DEC-12 19:06	AP	19-DEC-12	BJ	V8011SL
MC16999-7 Collected: 18-DEC-12 12:40 By: WPBS Received: 19-DEC-12 By: GP-15-29						
MC16999-7	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-7	SW846 8260B	28-DEC-12 15:27	AMY			V8260SL+
MC16999-7	SW846 8011	28-DEC-12 17:53	AP	19-DEC-12	BJ	V8011SL
MC16999-9 Collected: 18-DEC-12 12:30 By: WPBS Received: 19-DEC-12 By: GP-15-37						
MC16999-9	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-9	SW846 8011	28-DEC-12 18:17	AP	19-DEC-12	BJ	V8011SL
MC16999-9	SW846 8260B	31-DEC-12 12:57	AMY			V8260SL+
MC16999-10 Collected: 18-DEC-12 14:10 By: WPBS Received: 19-DEC-12 By: GP-15-47						
MC16999-10	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-10	SW846 8260B	21-DEC-12 20:56	GK			V8260SL+
MC16999-10	SW846 8260B	26-DEC-12 13:18	JM			V8260SL+
MC16999-10	SW846 8011	28-DEC-12 19:54	AP	19-DEC-12	BJ	V8011SL
MC16999-11 Collected: 18-DEC-12 14:15 By: WPBS Received: 19-DEC-12 By: GP-15-55						
MC16999-11	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-11	SW846 8260B	21-DEC-12 20:29	GK			V8260SL+
MC16999-11	SW846 8260B	26-DEC-12 12:49	JM			V8260SL+
MC16999-11	SW846 8011	28-DEC-12 20:19	AP	19-DEC-12	BJ	V8011SL
MC16999-12 Collected: 18-DEC-12 12:30 By: WPBS Received: 19-DEC-12 By: GP-15-37 DUP						
MC16999-12	SM21 2540 B MOD.	21-DEC-12	MA			%SOL
MC16999-12	SW846 8260B	21-DEC-12 19:34	GK			V8260SL+
MC16999-12	SW846 8260B	26-DEC-12 19:33	JM			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC16999

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC16999-12	SW846 8011	28-DEC-12 19:30	AP	20-DEC-12	AJ	V8011SL

SGS Accutest Internal Chain of Custody

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 12/19/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16999-1.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-1.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-1.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-1.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-1.1	Walk In Ref #9	Amy Min Yang	12/28/12 15:42	Retrieve from Storage
MC16999-1.1	Amy Min Yang	Walk In Ref #9	12/31/12 15:51	Return to Storage
MC16999-1.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-1.2	VOC Ref #10	Amy Min Yang	12/28/12 13:19	Retrieve from Storage
MC16999-1.2	Amy Min Yang	GCMSM	12/28/12 13:19	Load on Instrument
MC16999-1.2	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC16999-1.2	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC16999-1.2	Scott Parsick		02/13/13 11:52	Disposed
MC16999-1.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-1.4	Gary Krasinski	VOC Ref #10	12/21/12 07:26	Return to Storage
MC16999-1.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-2.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-2.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-2.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-2.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-2.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-2.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-2.4	Gary Krasinski	VOC Ref #10	12/26/12 08:22	Return to Storage
MC16999-2.4	VOC Ref #10	Jaime Maslowski	12/26/12 10:17	Retrieve from Storage
MC16999-2.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage
MC16999-2.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-3.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-3.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-3.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-3.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-3.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-3.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-3.4	Gary Krasinski	VOC Ref #10	12/26/12 08:22	Return to Storage
MC16999-3.4	VOC Ref #10	Jaime Maslowski	12/26/12 10:17	Retrieve from Storage
MC16999-3.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage
MC16999-3.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-4.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-4.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 12/19/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16999-4.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-4.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-4.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-4.2	VOC Ref #10	Amy Min Yang	12/28/12 13:19	Retrieve from Storage
MC16999-4.2	Amy Min Yang	GCMSM	12/28/12 13:19	Load on Instrument
MC16999-4.2	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC16999-4.2	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC16999-4.2	Scott Parsick		02/13/13 11:52	Disposed
MC16999-4.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-4.4	Gary Krasinski	VOC Ref #10	12/21/12 07:26	Return to Storage
MC16999-4.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-5.2	VOC Ref #4	Dana Tyron	12/31/12 12:50	Retrieve from Storage
MC16999-5.2	Dana Tyron	GCMST	12/31/12 12:50	Load on Instrument
MC16999-5.2	GCMST	Dana Tyron	01/02/13 10:26	Unload from Instrument
MC16999-5.2	Dana Tyron	VOC Ref #4	01/02/13 10:27	Return to Storage
MC16999-5.2	Scott Parsick		02/13/13 11:52	Disposed
MC16999-5.4	VOC Ref #4	Nick Krasinski	12/21/12 13:02	Retrieve from Storage
MC16999-5.4	Nick Krasinski		12/21/12 14:24	Depleted
MC16999-6.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-6.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-6.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-6.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-6.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-6.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-6.4	Gary Krasinski	VOC Ref #10	12/26/12 08:22	Return to Storage
MC16999-6.4	VOC Ref #10	Jaime Maslowski	12/26/12 10:17	Retrieve from Storage
MC16999-6.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage
MC16999-6.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-7.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-7.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-7.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-7.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-7.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-7.2	VOC Ref #10	Amy Min Yang	12/28/12 13:19	Retrieve from Storage
MC16999-7.2	Amy Min Yang	GCMSM	12/28/12 13:19	Load on Instrument
MC16999-7.2	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument

SGS Accutest Internal Chain of Custody

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 12/19/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16999-7.2	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC16999-7.2	Scott Parsick		02/13/13 11:52	Disposed
MC16999-7.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-7.4	Gary Krasinski	VOC Ref #10	12/21/12 07:26	Return to Storage
MC16999-7.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-8.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-8.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-8.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-8.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-8.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-8.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-8.4	Gary Krasinski	VOC Ref #10	12/26/12 11:06	Return to Storage
MC16999-8.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-9.4	VOC Ref #10	Amy Min Yang	12/31/12 11:49	Retrieve from Storage
MC16999-9.4	Amy Min Yang	GCMSG	12/31/12 11:49	Load on Instrument
MC16999-9.4	GCMSG	Jaime Maslowski	01/02/13 10:04	Unload from Instrument
MC16999-9.4	Jaime Maslowski	VOC Ref #10	01/02/13 10:04	Return to Storage
MC16999-9.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-10.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-10.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-10.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-10.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-10.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-10.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-10.4	Gary Krasinski	Jaime Maslowski	12/26/12 10:16	Custody Transfer
MC16999-10.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage
MC16999-10.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-11.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-11.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-11.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-11.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-11.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-11.4	VOC Ref #10	Gary Krasinski	12/20/12 11:05	Retrieve from Storage
MC16999-11.4	Gary Krasinski	VOC Ref #10	12/26/12 08:22	Return to Storage
MC16999-11.4	VOC Ref #10	Jaime Maslowski	12/26/12 10:17	Retrieve from Storage
MC16999-11.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 12/19/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16999-11.4	Scott Parsick		02/13/13 11:52	Disposed
MC16999-12.1	Walk In Ref #9	Nick Krasinski	12/19/12 18:04	Retrieve from Storage
MC16999-12.1	Nick Krasinski	Walk In Ref #9	12/19/12 18:04	Return to Storage
MC16999-12.1	Walk In Ref #9	Mehdi Abdolrahim	12/21/12 08:29	Retrieve from Storage
MC16999-12.1	Mehdi Abdolrahim	Walk In Ref #9	12/21/12 10:14	Return to Storage
MC16999-12.1	Scott Parsick		02/13/13 11:52	Disposed
MC16999-12.4	VOC Ref #10	Gary Krasinski	12/21/12 11:48	Retrieve from Storage
MC16999-12.4	Gary Krasinski	Jaime Maslowski	12/26/12 10:16	Custody Transfer
MC16999-12.4	Jaime Maslowski	VOC Ref #10	12/27/12 09:37	Return to Storage
MC16999-12.4	Scott Parsick		02/13/13 11:52	Disposed

GC/MS Volatiles

QC Data Summaries

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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-MB	K65921.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	63	ug/kg	
107-13-1	Acrylonitrile	ND	1300	63	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	
108-86-1	Bromobenzene	ND	250	11	ug/kg	
74-97-5	Bromochloromethane	ND	250	19	ug/kg	
75-27-4	Bromodichloromethane	ND	100	11	ug/kg	
75-25-2	Bromoform	ND	100	100	ug/kg	
74-83-9	Bromomethane	ND	100	26	ug/kg	
78-93-3	2-Butanone (MEK)	ND	250	63	ug/kg	
104-51-8	n-Butylbenzene	ND	250	9.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	11	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	44	ug/kg	
75-15-0	Carbon disulfide	ND	250	8.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	36	ug/kg	
108-90-7	Chlorobenzene	ND	100	14	ug/kg	
75-00-3	Chloroethane	ND	250	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	100	26	ug/kg	
74-87-3	Chloromethane	ND	250	23	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	55	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	11	ug/kg	
124-48-1	Dibromochloromethane	ND	100	15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	11	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	11	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	19	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	12	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	13	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	100	8.5	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-MB	K65921.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	100	25	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	1300	ug/kg	
97-63-2	Ethyl methacrylate	ND	250	34	ug/kg	
100-41-4	Ethylbenzene	ND	100	12	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	23	ug/kg	
591-78-6	2-Hexanone	ND	250	25	ug/kg	
98-82-8	Isopropylbenzene	ND	250	11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	25	ug/kg	
74-95-3	Methylene bromide	ND	250	25	ug/kg	
75-09-2	Methylene chloride	ND	100	58	ug/kg	
91-20-3	Naphthalene	ND	250	63	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
100-42-5	Styrene	ND	250	12	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	21	ug/kg	
127-18-4	Tetrachloroethene	ND	100	11	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	250	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	37	ug/kg	
79-01-6	Trichloroethene	ND	100	11	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	15	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	
108-05-4	Vinyl Acetate	ND	250	28	ug/kg	
75-01-4	Vinyl chloride	ND	100	14	ug/kg	
	m,p-Xylene	ND	100	39	ug/kg	
95-47-6	o-Xylene	ND	100	12	ug/kg	
1330-20-7	Xylene (total)	ND	100	12	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-MB	K65921.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	110%	70-130%
2037-26-5	Toluene-D8	107%	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/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4896-MB	G123186.D	1	12/26/12	JM	n/a	n/a	MSG4896

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	1300	500	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	91%	70-130%

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-MB	M53166.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	1.3	ug/kg	
107-02-8	Acrolein	ND	25	10	ug/kg	
107-13-1	Acrylonitrile	ND	25	1.3	ug/kg	
71-43-2	Benzene	ND	0.50	0.29	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.22	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.21	ug/kg	
75-25-2	Bromoform	ND	2.0	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5.0	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.18	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.23	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.88	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.73	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.28	ug/kg	
75-00-3	Chloroethane	ND	5.0	1.3	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	2.0	0.52	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.46	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.23	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.30	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.23	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.27	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.29	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	0.37	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.37	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.23	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.87	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.26	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-MB	M53166.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/kg	
123-91-1	1,4-Dioxane	ND	25	25	ug/kg	
97-63-2	Ethyl methacrylate	ND	5.0	0.68	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.24	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.46	ug/kg	
591-78-6	2-Hexanone	ND	5.0	0.50	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.23	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.18	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.29	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.50	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.49	ug/kg	
75-09-2	Methylene chloride	ND	2.0	1.2	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.3	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	5.0	0.23	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.43	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.23	ug/kg	
108-88-3	Toluene	ND	5.0	0.85	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.24	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.23	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.31	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.73	ug/kg	
79-01-6	Trichloroethene	ND	2.0	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	0.30	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.29	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	0.56	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.27	ug/kg	
	m,p-Xylene	ND	2.0	0.79	ug/kg	
95-47-6	o-Xylene	ND	2.0	0.24	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	0.24	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-MB	M53166.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	88%	70-130%
460-00-4	4-Bromofluorobenzene	79%	70-130%

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

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-MB	G123331.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	63	ug/kg	
107-02-8	Acrolein	ND	1300	500	ug/kg	
107-13-1	Acrylonitrile	ND	1300	63	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	
108-86-1	Bromobenzene	ND	250	11	ug/kg	
74-97-5	Bromochloromethane	ND	250	19	ug/kg	
75-27-4	Bromodichloromethane	ND	100	11	ug/kg	
75-25-2	Bromoform	ND	100	100	ug/kg	
74-83-9	Bromomethane	ND	100	26	ug/kg	
78-93-3	2-Butanone (MEK)	ND	250	63	ug/kg	
104-51-8	n-Butylbenzene	ND	250	9.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	11	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	44	ug/kg	
75-15-0	Carbon disulfide	ND	250	8.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	36	ug/kg	
108-90-7	Chlorobenzene	ND	100	14	ug/kg	
75-00-3	Chloroethane	ND	250	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	100	26	ug/kg	
74-87-3	Chloromethane	ND	250	23	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	55	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	11	ug/kg	
124-48-1	Dibromochloromethane	ND	100	15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	11	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	11	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	19	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	12	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	13	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-MB	G123331.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-9

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	8.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	25	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	1300	ug/kg	
97-63-2	Ethyl methacrylate	ND	250	34	ug/kg	
100-41-4	Ethylbenzene	ND	100	12	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	23	ug/kg	
591-78-6	2-Hexanone	ND	250	25	ug/kg	
98-82-8	Isopropylbenzene	ND	250	11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	25	ug/kg	
74-95-3	Methylene bromide	ND	250	25	ug/kg	
75-09-2	Methylene chloride	ND	100	58	ug/kg	
91-20-3	Naphthalene	ND	250	63	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
100-42-5	Styrene	ND	250	12	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	21	ug/kg	
127-18-4	Tetrachloroethene	ND	100	11	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	250	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	37	ug/kg	
79-01-6	Trichloroethene	ND	100	11	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	15	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	
108-05-4	Vinyl Acetate	ND	250	28	ug/kg	
75-01-4	Vinyl chloride	ND	100	14	ug/kg	
	m,p-Xylene	ND	100	39	ug/kg	
95-47-6	o-Xylene	ND	100	12	ug/kg	
1330-20-7	Xylene (total)	ND	100	12	ug/kg	

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-MB	G123331.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-9

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	88%	70-130%

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

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-MB	T28265.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

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	1.3	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	0.61	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	1.3	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-MB	T28265.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-MB	T28265.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	119%	70-130%
460-00-4	4-Bromofluorobenzene	116%	70-130%

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

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4896-BS	G123184.D	1	12/26/12	JM	n/a	n/a	MSG4896

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
107-02-8	Acrolein	12500	4550	36* [a]	70-130
71-43-2	Benzene	2500	2390	96	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	94%	70-130%
460-00-4	4-Bromofluorobenzene	88%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-BS	M53164.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	31.9	64* [a]	70-130
107-02-8	Acrolein	250	214	86	70-130
107-13-1	Acrylonitrile	50	47.0	94	70-130
71-43-2	Benzene	50	49.5	99	70-130
108-86-1	Bromobenzene	50	47.2	94	70-130
74-97-5	Bromochloromethane	50	46.9	94	70-130
75-27-4	Bromodichloromethane	50	48.0	96	70-130
75-25-2	Bromoform	50	46.7	93	70-130
74-83-9	Bromomethane	50	56.5	113	70-130
78-93-3	2-Butanone (MEK)	50	53.1	106	70-130
104-51-8	n-Butylbenzene	50	53.9	108	70-130
135-98-8	sec-Butylbenzene	50	50.9	102	70-130
98-06-6	tert-Butylbenzene	50	49.1	98	70-130
75-15-0	Carbon disulfide	50	61.5	123	70-130
56-23-5	Carbon tetrachloride	50	57.5	115	70-130
108-90-7	Chlorobenzene	50	46.8	94	70-130
75-00-3	Chloroethane	50	58.2	116	70-130
110-75-8	2-Chloroethyl vinyl ether	50	48.8	98	10-160
67-66-3	Chloroform	50	48.5	97	70-130
74-87-3	Chloromethane	50	66.0	132* [a]	70-130
95-49-8	o-Chlorotoluene	50	45.9	92	70-130
106-43-4	p-Chlorotoluene	50	47.9	96	70-130
124-48-1	Dibromochloromethane	50	46.2	92	70-130
95-50-1	1,2-Dichlorobenzene	50	44.3	89	70-130
541-73-1	1,3-Dichlorobenzene	50	46.3	93	70-130
106-46-7	1,4-Dichlorobenzene	50	47.3	95	70-130
75-71-8	Dichlorodifluoromethane	50	79.9	160* [a]	70-130
75-34-3	1,1-Dichloroethane	50	50.1	100	70-130
107-06-2	1,2-Dichloroethane	50	47.2	94	70-130
75-35-4	1,1-Dichloroethene	50	59.9	120	70-130
156-59-2	cis-1,2-Dichloroethene	50	47.8	96	70-130
156-60-5	trans-1,2-Dichloroethene	50	53.5	107	70-130
78-87-5	1,2-Dichloropropane	50	45.6	91	70-130
142-28-9	1,3-Dichloropropane	50	45.2	90	70-130
594-20-7	2,2-Dichloropropane	50	55.3	111	70-130
563-58-6	1,1-Dichloropropene	50	56.7	113	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-BS	M53164.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	45.4	91	70-130
10061-02-6	trans-1,3-Dichloropropene	50	48.6	97	70-130
123-91-1	1,4-Dioxane	250	282	113	70-130
97-63-2	Ethyl methacrylate	50	50.3	101	76-141
100-41-4	Ethylbenzene	50	51.6	103	70-130
87-68-3	Hexachlorobutadiene	50	56.1	112	70-130
591-78-6	2-Hexanone	50	56.0	112	70-130
98-82-8	Isopropylbenzene	50	48.8	98	70-130
99-87-6	p-Isopropyltoluene	50	55.6	111	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.9	86	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.1	102	70-130
74-95-3	Methylene bromide	50	46.8	94	70-130
75-09-2	Methylene chloride	50	44.6	89	70-130
91-20-3	Naphthalene	50	56.7	113	70-130
103-65-1	n-Propylbenzene	50	49.1	98	70-130
100-42-5	Styrene	50	48.3	97	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	47.3	95	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.9	94	70-130
127-18-4	Tetrachloroethene	50	57.2	114	70-130
108-88-3	Toluene	50	52.9	106	70-130
87-61-6	1,2,3-Trichlorobenzene	50	49.7	99	70-130
120-82-1	1,2,4-Trichlorobenzene	50	50.7	101	70-130
71-55-6	1,1,1-Trichloroethane	50	54.2	108	70-130
79-00-5	1,1,2-Trichloroethane	50	45.5	91	70-130
79-01-6	Trichloroethene	50	53.3	107	70-130
75-69-4	Trichlorofluoromethane	50	63.9	128	70-130
96-18-4	1,2,3-Trichloropropane	50	48.7	97	70-130
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	70-130
108-67-8	1,3,5-Trimethylbenzene	50	50.4	101	70-130
108-05-4	Vinyl Acetate	50	50.2	100	70-130
75-01-4	Vinyl chloride	50	59.7	119	70-130
	m,p-Xylene	100	102	102	70-130
95-47-6	o-Xylene	50	48.5	97	70-130
1330-20-7	Xylene (total)	150	151	101	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1806-BS	M53164.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	88%	70-130%
460-00-4	4-Bromofluorobenzene	80%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-BS	K65918.D	1	12/21/12	GK	n/a	n/a	MSK2166
MSK2166-BSD	K65919.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	1830	73	1790	72	2	70-130/25
107-13-1	Acrylonitrile	2500	2010	80	1970	79	2	70-130/25
71-43-2	Benzene	2500	2420	97	2360	94	3	70-130/25
108-86-1	Bromobenzene	2500	2630	105	2460	98	7	70-130/25
74-97-5	Bromochloromethane	2500	2340	94	2330	93	0	70-130/25
75-27-4	Bromodichloromethane	2500	2550	102	2480	99	3	70-130/25
75-25-2	Bromoform	2500	2390	96	2510	100	5	70-130/25
74-83-9	Bromomethane	2500	2390	96	2290	92	4	70-130/25
78-93-3	2-Butanone (MEK)	2500	1710	68* [a]	1890	76	10	70-130/25
104-51-8	n-Butylbenzene	2500	2900	116	2530	101	14	70-130/25
135-98-8	sec-Butylbenzene	2500	3080	123	2770	111	11	70-130/25
98-06-6	tert-Butylbenzene	2500	3140	126	2830	113	10	70-130/25
75-15-0	Carbon disulfide	2500	2480	99	2340	94	6	70-130/25
56-23-5	Carbon tetrachloride	2500	2650	106	2520	101	5	70-130/25
108-90-7	Chlorobenzene	2500	2770	111	2750	110	1	70-130/25
75-00-3	Chloroethane	2500	2450	98	2260	90	8	70-130/25
110-75-8	2-Chloroethyl vinyl ether	2500	1500	60	1510	60	1	10-160/25
67-66-3	Chloroform	2500	2420	97	2380	95	2	70-130/25
74-87-3	Chloromethane	2500	3510	140* [a]	3000	120	16	70-130/25
95-49-8	o-Chlorotoluene	2500	2940	118	2740	110	7	70-130/25
106-43-4	p-Chlorotoluene	2500	3100	124	2900	116	7	70-130/25
124-48-1	Dibromochloromethane	2500	2650	106	2650	106	0	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2750	110	2700	108	2	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2860	114	2790	112	2	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2580	103	2530	101	2	70-130/25
75-71-8	Dichlorodifluoromethane	2500	3540	142* [a]	3210	128	10	70-130/25
75-34-3	1,1-Dichloroethane	2500	2360	94	2290	92	3	70-130/25
107-06-2	1,2-Dichloroethane	2500	2470	99	2430	97	2	70-130/25
75-35-4	1,1-Dichloroethene	2500	2550	102	2440	98	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2360	94	2310	92	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2330	93	2250	90	3	70-130/25
78-87-5	1,2-Dichloropropane	2500	2320	93	2300	92	1	70-130/25
142-28-9	1,3-Dichloropropane	2500	2400	96	2420	97	1	70-130/25
594-20-7	2,2-Dichloropropane	2500	2460	98	2370	95	4	70-130/25
563-58-6	1,1-Dichloropropene	2500	2530	101	2430	97	4	70-130/25
10061-01-5	cis-1,3-Dichloropropene	2500	2380	95	2360	94	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-BS	K65918.D	1	12/21/12	GK	n/a	n/a	MSK2166
MSK2166-BSD	K65919.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	2500	2550	102	2520	101	1	70-130/25
123-91-1	1,4-Dioxane	12500	13000	104	13800	110	6	70-130/25
97-63-2	Ethyl methacrylate	2500	2230	89	2200	88	1	76-141/25
100-41-4	Ethylbenzene	2500	2670	107	2570	103	4	70-130/25
87-68-3	Hexachlorobutadiene	2500	2970	119	2800	112	6	70-130/25
591-78-6	2-Hexanone	2500	2010	80	2000	80	0	70-130/25
98-82-8	Isopropylbenzene	2500	3080	123	2840	114	8	70-130/25
99-87-6	p-Isopropyltoluene	2500	2940	118	2700	108	9	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2310	92	2300	92	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2000	80	1940	78	3	70-130/25
74-95-3	Methylene bromide	2500	2400	96	2330	93	3	70-130/25
75-09-2	Methylene chloride	2500	2440	98	2310	92	5	70-130/25
91-20-3	Naphthalene	2500	2580	103	2410	96	7	70-130/25
103-65-1	n-Propylbenzene	2500	3050	122	2790	112	9	70-130/25
100-42-5	Styrene	2500	2520	101	2530	101	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	2690	108	2710	108	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2570	103	2500	100	3	70-130/25
127-18-4	Tetrachloroethene	2500	2500	100	2460	98	2	70-130/25
108-88-3	Toluene	2500	2490	100	2420	97	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2650	106	2540	102	4	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	2670	107	2530	101	5	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	2560	102	2460	98	4	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2350	94	2300	92	2	70-130/25
79-01-6	Trichloroethene	2500	2470	99	2390	96	3	70-130/25
75-69-4	Trichlorofluoromethane	2500	2650	106	2550	102	4	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2550	102	2410	96	6	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2830	113	2580	103	9	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2790	112	2590	104	7	70-130/25
108-05-4	Vinyl Acetate	2500	1970	79	1950	78	1	70-130/25
75-01-4	Vinyl chloride	2500	2490	100	2440	98	2	70-130/25
	m,p-Xylene	5000	5580	112	5480	110	2	70-130/25
95-47-6	o-Xylene	2500	2890	116	2820	113	2	70-130/25
1330-20-7	Xylene (total)	7500	8470	113	8300	111	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2166-BS	K65918.D	1	12/21/12	GK	n/a	n/a	MSK2166
MSK2166-BSD	K65919.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	105%	105%	70-130%
2037-26-5	Toluene-D8	107%	104%	70-130%
460-00-4	4-Bromofluorobenzene	116%	108%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-BS	G123328.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MSG4900-BSD	G123329.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	3210	128	3060	122	5	70-130/25
107-02-8	Acrolein	12500	8590	69* [a]	8970	72	4	70-130/25
107-13-1	Acrylonitrile	2500	2360	94	2480	99	5	70-130/25
71-43-2	Benzene	2500	2570	103	2540	102	1	70-130/25
108-86-1	Bromobenzene	2500	2720	109	2720	109	0	70-130/25
74-97-5	Bromochloromethane	2500	2670	107	2720	109	2	70-130/25
75-27-4	Bromodichloromethane	2500	2720	109	2720	109	0	70-130/25
75-25-2	Bromoform	2500	2450	98	2510	100	2	70-130/25
74-83-9	Bromomethane	2500	2630	105	2660	106	1	70-130/25
78-93-3	2-Butanone (MEK)	2500	3000	120	2720	109	10	70-130/25
104-51-8	n-Butylbenzene	2500	2650	106	2640	106	0	70-130/25
135-98-8	sec-Butylbenzene	2500	2540	102	2540	102	0	70-130/25
98-06-6	tert-Butylbenzene	2500	2520	101	2520	101	0	70-130/25
75-15-0	Carbon disulfide	2500	2610	104	2590	104	1	70-130/25
56-23-5	Carbon tetrachloride	2500	2680	107	2600	104	3	70-130/25
108-90-7	Chlorobenzene	2500	2610	104	2580	103	1	70-130/25
75-00-3	Chloroethane	2500	2560	102	2550	102	0	70-130/25
110-75-8	2-Chloroethyl vinyl ether	2500	2080	83	2050	82	1	10-160/25
67-66-3	Chloroform	2500	2670	107	2650	106	1	70-130/25
74-87-3	Chloromethane	2500	2920	117	2940	118	1	70-130/25
95-49-8	o-Chlorotoluene	2500	2520	101	2500	100	1	70-130/25
106-43-4	p-Chlorotoluene	2500	2610	104	2600	104	0	70-130/25
124-48-1	Dibromochloromethane	2500	2650	106	2660	106	0	70-130/25
95-50-1	1,2-Dichlorobenzene	2500	2650	106	2610	104	2	70-130/25
541-73-1	1,3-Dichlorobenzene	2500	2610	104	2600	104	0	70-130/25
106-46-7	1,4-Dichlorobenzene	2500	2780	111	2760	110	1	70-130/25
75-71-8	Dichlorodifluoromethane	2500	3270	131* [a]	3110	124	5	70-130/25
75-34-3	1,1-Dichloroethane	2500	2700	108	2680	107	1	70-130/25
107-06-2	1,2-Dichloroethane	2500	2640	106	2650	106	0	70-130/25
75-35-4	1,1-Dichloroethene	2500	2650	106	2710	108	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	2500	2630	105	2640	106	0	70-130/25
156-60-5	trans-1,2-Dichloroethene	2500	2650	106	2650	106	0	70-130/25
78-87-5	1,2-Dichloropropane	2500	2620	105	2630	105	0	70-130/25
142-28-9	1,3-Dichloropropane	2500	2550	102	2570	103	1	70-130/25
594-20-7	2,2-Dichloropropane	2500	2840	114	2830	113	0	70-130/25
563-58-6	1,1-Dichloropropene	2500	2580	103	2540	102	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-BS	G123328.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MSG4900-BSD	G123329.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	2500	2600	104	2610	104	0	70-130/25
10061-02-6	trans-1,3-Dichloropropene	2500	2780	111	2770	111	0	70-130/25
123-91-1	1,4-Dioxane	12500	8110	65* [a]	8630	69* [a]	6	70-130/25
97-63-2	Ethyl methacrylate	2500	2480	99	2520	101	2	76-141/25
100-41-4	Ethylbenzene	2500	2660	106	2630	105	1	70-130/25
87-68-3	Hexachlorobutadiene	2500	2770	111	2830	113	2	70-130/25
591-78-6	2-Hexanone	2500	2710	108	2560	102	6	70-130/25
98-82-8	Isopropylbenzene	2500	2510	100	2490	100	1	70-130/25
99-87-6	p-Isopropyltoluene	2500	2750	110	2730	109	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	2500	2630	105	2640	106	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2250	90	2260	90	0	70-130/25
74-95-3	Methylene bromide	2500	2600	104	2600	104	0	70-130/25
75-09-2	Methylene chloride	2500	2740	110	2760	110	1	70-130/25
91-20-3	Naphthalene	2500	2650	106	2690	108	1	70-130/25
103-65-1	n-Propylbenzene	2500	2510	100	2480	99	1	70-130/25
100-42-5	Styrene	2500	2580	103	2580	103	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	2670	107	2640	106	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2640	106	2660	106	1	70-130/25
127-18-4	Tetrachloroethene	2500	2680	107	2640	106	2	70-130/25
108-88-3	Toluene	2500	2630	105	2620	105	0	70-130/25
87-61-6	1,2,3-Trichlorobenzene	2500	2690	108	2690	108	0	70-130/25
120-82-1	1,2,4-Trichlorobenzene	2500	2700	108	2690	108	0	70-130/25
71-55-6	1,1,1-Trichloroethane	2500	2660	106	2660	106	0	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2670	107	2640	106	1	70-130/25
79-01-6	Trichloroethene	2500	2590	104	2560	102	1	70-130/25
75-69-4	Trichlorofluoromethane	2500	2710	108	2670	107	1	70-130/25
96-18-4	1,2,3-Trichloropropane	2500	2560	102	2570	103	0	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2600	104	2580	103	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2600	104	2570	103	1	70-130/25
108-05-4	Vinyl Acetate	2500	2910	116	2970	119	2	70-130/25
75-01-4	Vinyl chloride	2500	2760	110	2800	112	1	70-130/25
	m,p-Xylene	5000	5270	105	5220	104	1	70-130/25
95-47-6	o-Xylene	2500	2580	103	2570	103	0	70-130/25
1330-20-7	Xylene (total)	7500	7850	105	7790	104	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4900-BS	G123328.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MSG4900-BSD	G123329.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-9

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	99%	70-130%
2037-26-5	Toluene-D8	95%	94%	70-130%
460-00-4	4-Bromofluorobenzene	91%	91%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-BS	T28262.D	1	12/31/12	DFT	n/a	n/a	MST987
MST987-BSD	T28263.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.1	72	36.6	73	1	70-130/25
107-02-8	Acrolein	250	127	51* [a]	114	46* [a]	11	70-130/25
107-13-1	Acrylonitrile	50	191	382* [b]	209	418* [b]	9	70-130/25
71-43-2	Benzene	50	46.9	94	47.8	96	2	70-130/25
108-86-1	Bromobenzene	50	49.0	98	50.2	100	2	70-130/25
74-97-5	Bromochloromethane	50	40.9	82	42.8	86	5	70-130/25
75-27-4	Bromodichloromethane	50	44.3	89	45.9	92	4	70-130/25
75-25-2	Bromoform	50	45.1	90	47.4	95	5	70-130/25
74-83-9	Bromomethane	50	44.3	89	45.5	91	3	70-130/25
78-93-3	2-Butanone (MEK)	50	39.8	80	41.6	83	4	70-130/25
104-51-8	n-Butylbenzene	50	46.6	93	46.4	93	0	70-130/25
135-98-8	sec-Butylbenzene	50	46.6	93	47.0	94	1	70-130/25
98-06-6	tert-Butylbenzene	50	45.2	90	46.0	92	2	70-130/25
75-15-0	Carbon disulfide	50	41.5	83	42.7	85	3	70-130/25
56-23-5	Carbon tetrachloride	50	44.4	89	45.6	91	3	70-130/25
108-90-7	Chlorobenzene	50	46.0	92	47.7	95	4	70-130/25
75-00-3	Chloroethane	50	39.7	79	42.6	85	7	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	37.4	75	38.1	76	2	70-130/25
67-66-3	Chloroform	50	39.0	78	39.8	80	2	70-130/25
74-87-3	Chloromethane	50	49.0	98	50.5	101	3	70-130/25
95-49-8	o-Chlorotoluene	50	45.3	91	46.2	92	2	70-130/25
106-43-4	p-Chlorotoluene	50	45.3	91	45.9	92	1	70-130/25
124-48-1	Dibromochloromethane	50	45.1	90	47.7	95	6	70-130/25
95-50-1	1,2-Dichlorobenzene	50	46.5	93	47.3	95	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	46.2	92	47.0	94	2	70-130/25
106-46-7	1,4-Dichlorobenzene	50	48.6	97	49.4	99	2	70-130/25
75-71-8	Dichlorodifluoromethane	50	56.1	112	57.8	116	3	70-130/25
75-34-3	1,1-Dichloroethane	50	43.5	87	44.6	89	2	70-130/25
107-06-2	1,2-Dichloroethane	50	42.6	85	43.7	87	3	70-130/25
75-35-4	1,1-Dichloroethene	50	43.5	87	44.1	88	1	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	44.1	88	45.6	91	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	45.3	91	46.6	93	3	70-130/25
78-87-5	1,2-Dichloropropane	50	41.0	82	42.0	84	2	70-130/25
142-28-9	1,3-Dichloropropane	50	44.3	89	46.2	92	4	70-130/25
594-20-7	2,2-Dichloropropane	50	36.6	73	37.2	74	2	70-130/25
563-58-6	1,1-Dichloropropene	50	45.0	90	45.6	91	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-BS	T28262.D	1	12/31/12	DFT	n/a	n/a	MST987
MST987-BSD	T28263.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

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	42.4	85	43.3	87	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	44.2	88	45.6	91	3	70-130/25
123-91-1	1,4-Dioxane	250	226	90	240	96	6	70-130/25
97-63-2	Ethyl methacrylate	50	44.9	90	46.5	93	4	77-137/25
100-41-4	Ethylbenzene	50	47.7	95	49.4	99	4	70-130/25
87-68-3	Hexachlorobutadiene	50	48.4	97	48.4	97	0	70-130/25
591-78-6	2-Hexanone	50	44.9	90	42.3	85	6	70-130/25
98-82-8	Isopropylbenzene	50	46.3	93	47.1	94	2	70-130/25
99-87-6	p-Isopropyltoluene	50	48.0	96	48.4	97	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	42.2	84	43.5	87	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	42.3	85	45.0	90	6	70-130/25
74-95-3	Methylene bromide	50	42.6	85	44.8	90	5	70-130/25
75-09-2	Methylene chloride	50	41.4	83	42.5	85	3	70-130/25
91-20-3	Naphthalene	50	49.6	99	51.1	102	3	70-130/25
103-65-1	n-Propylbenzene	50	45.1	90	45.8	92	2	70-130/25
100-42-5	Styrene	50	48.5	97	50.7	101	4	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	48.3	97	49.9	100	3	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	45.7	91	47.0	94	3	70-130/25
127-18-4	Tetrachloroethene	50	48.4	97	50.0	100	3	70-130/25
108-88-3	Toluene	50	46.8	94	48.0	96	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	49.9	100	51.4	103	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	47.7	95	48.3	97	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	44.5	89	46.1	92	4	70-130/25
79-00-5	1,1,2-Trichloroethane	50	44.2	88	45.0	90	2	70-130/25
79-01-6	Trichloroethene	50	46.7	93	47.7	95	2	70-130/25
75-69-4	Trichlorofluoromethane	50	41.5	83	42.6	85	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	42.9	86	44.6	89	4	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	47.5	95	48.1	96	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	47.2	94	47.6	95	1	70-130/25
108-05-4	Vinyl Acetate	50	40.1	80	41.1	82	2	70-130/25
75-01-4	Vinyl chloride	50	44.2	88	45.6	91	3	70-130/25
	m,p-Xylene	100	95.6	96	99.0	99	3	70-130/25
95-47-6	o-Xylene	50	46.7	93	48.3	97	3	70-130/25
1330-20-7	Xylene (total)	150	142	95	147	98	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MST987-BS	T28262.D	1	12/31/12	DFT	n/a	n/a	MST987
MST987-BSD	T28263.D	1	12/31/12	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	107%	108%	70-130%
2037-26-5	Toluene-D8	120%	119%	70-130%
460-00-4	4-Bromofluorobenzene	116%	114%	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16996-3MS	K65934.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3MSD	K65935.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3	K65933.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	MC16996-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		10800	7310	68* [a]	10800	7460	69* [a]	2	70-130/30
107-13-1	Acrylonitrile	ND		10800	8050	75	10800	7790	72	3	70-130/30
71-43-2	Benzene	ND		10800	10100	94	10800	10300	96	2	70-130/30
108-86-1	Bromobenzene	ND		10800	11000	102	10800	11200	104	2	70-130/30
74-97-5	Bromochloromethane	ND		10800	10200	95	10800	10000	93	2	70-130/30
75-27-4	Bromodichloromethane	ND		10800	10300	96	10800	10700	99	4	70-130/30
75-25-2	Bromoform	ND		10800	12200	113	10800	12500	116	2	70-130/30
74-83-9	Bromomethane	ND		10800	10900	101	10800	10600	99	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		10800	8600	80	10800	8740	81	2	70-130/30
104-51-8	n-Butylbenzene	1360		10800	12200	101	10800	12600	104	3	70-130/30
135-98-8	sec-Butylbenzene	551		10800	12300	109	10800	12900	115	5	70-130/30
98-06-6	tert-Butylbenzene	ND		10800	12000	112	10800	12500	116	4	70-130/30
75-15-0	Carbon disulfide	ND		10800	10100	94	10800	10000	93	1	70-130/30
56-23-5	Carbon tetrachloride	ND		10800	11100	103	10800	11300	105	2	70-130/30
108-90-7	Chlorobenzene	ND		10800	12100	112	10800	12600	117	4	70-130/30
75-00-3	Chloroethane	ND		10800	9840	91	10800	9860	92	0	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		10800	6420	60	10800	6610	61	3	10-160/30
67-66-3	Chloroform	ND		10800	10400	97	10800	10300	96	1	70-130/30
74-87-3	Chloromethane	ND		10800	13000	121	10800	12900	120	1	70-130/30
95-49-8	o-Chlorotoluene	ND		10800	11100	103	10800	11500	107	4	70-130/30
106-43-4	p-Chlorotoluene	ND		10800	11600	108	10800	12000	112	3	70-130/30
124-48-1	Dibromochloromethane	ND		10800	11900	111	10800	12300	114	3	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		10800	11500	107	10800	11700	109	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		10800	11600	108	10800	12000	112	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		10800	10800	100	10800	11100	103	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		10800	12800	119	10800	12500	116	2	70-130/30
75-34-3	1,1-Dichloroethane	ND		10800	9870	92	10800	9610	89	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		10800	10400	97	10800	10600	99	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		10800	10500	98	10800	10600	99	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		10800	9790	91	10800	9840	91	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		10800	9700	90	10800	9600	89	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		10800	9030	84	10800	9520	88	5	70-130/30
142-28-9	1,3-Dichloropropane	ND		10800	10500	98	10800	11100	103	6	70-130/30
594-20-7	2,2-Dichloropropane	ND		10800	9760	91	10800	9570	89	2	70-130/30
563-58-6	1,1-Dichloropropene	ND		10800	10100	94	10800	10600	99	5	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		10800	9650	90	10800	9900	92	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16996-3MS	K65934.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3MSD	K65935.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3	K65933.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	MC16996-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		10800	10100	94	10800	10300	96	2	70-130/30
123-91-1	1,4-Dioxane	ND		53800	44700	83	53800	39800	74	12	70-130/30
97-63-2	Ethyl methacrylate	ND		10800	10900	101	10800	11100	103	2	41-160/30
100-41-4	Ethylbenzene	ND		10800	11300	105	10800	11800	110	4	70-130/30
87-68-3	Hexachlorobutadiene	ND		10800	11900	111	10800	12400	115	4	70-130/30
591-78-6	2-Hexanone	ND		10800	9500	53* [a]	10800	9760	55* [a]	3	70-130/30
98-82-8	Isopropylbenzene	ND		10800	11700	109	10800	12300	114	5	70-130/30
99-87-6	p-Isopropyltoluene	131		10800	11700	108	10800	12200	112	4	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		10800	10100	94	10800	9720	90	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		10800	16000	149* [a]	10800	16100	150* [a]	1	70-130/30
74-95-3	Methylene bromide	ND		10800	9780	91	10800	10000	93	2	70-130/30
75-09-2	Methylene chloride	ND		10800	10200	95	10800	10000	93	2	70-130/30
91-20-3	Naphthalene	342		10800	11200	101	10800	11300	102	1	70-130/30
103-65-1	n-Propylbenzene	228		10800	11600	106	10800	12000	109	3	70-130/30
100-42-5	Styrene	ND		10800	10900	101	10800	11400	106	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		10800	12000	112	10800	12200	113	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		10800	10800	100	10800	11000	102	2	70-130/30
127-18-4	Tetrachloroethene	ND		10800	11100	103	10800	11800	110	6	70-130/30
108-88-3	Toluene	ND		10800	9990	93	10800	10300	96	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		10800	10900	101	10800	11300	105	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		10800	10700	99	10800	11100	103	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		10800	11000	102	10800	10800	100	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		10800	10500	98	10800	10700	99	2	70-130/30
79-01-6	Trichloroethene	ND		10800	9980	93	10800	10400	97	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		10800	11000	102	10800	11100	103	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		10800	9910	92	10800	9980	93	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	209		10800	10900	99	10800	11500	105	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		10800	10700	99	10800	11200	104	5	70-130/30
108-05-4	Vinyl Acetate	ND		10800	8330	77	10800	8330	77	0	70-130/30
75-01-4	Vinyl chloride	ND		10800	16800	156* [a]	10800	17300	161* [a]	3	70-130/30
	m,p-Xylene	ND		21500	23700	110	21500	25000	116	5	70-130/30
95-47-6	o-Xylene	ND		10800	12400	115	10800	12900	120	4	70-130/30
1330-20-7	Xylene (total)	ND		32300	36200	112	32300	37800	117	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16996-3MS	K65934.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3MSD	K65935.D	1	12/21/12	GK	n/a	n/a	MSK2166
MC16996-3	K65933.D	1	12/21/12	GK	n/a	n/a	MSK2166

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Surrogate Recoveries	MS	MSD	MC16996-3	Limits
1868-53-7	Dibromofluoromethane	106%	104%	109%	70-130%
2037-26-5	Toluene-D8	99%	102%	100%	70-130%
460-00-4	4-Bromofluorobenzene	107%	110%	108%	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17145-1MS	G123197.D	1	12/26/12	JM	n/a	n/a	MSG4896
MC17145-1MSD	G123198.D	1	12/26/12	JM	n/a	n/a	MSG4896
MC17145-1	G123196.D	1	12/26/12	JM	n/a	n/a	MSG4896

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-2, MC16999-3, MC16999-6, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	MC17145-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
107-02-8	Acrolein	ND		15700	5450	35* [a]	15700	5700	36* [a]	4	70-130/30
71-43-2	Benzene	ND		3130	3150	101	3130	3080	98	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC17145-1	Limits
1868-53-7	Dibromofluoromethane	98%	98%	89%	70-130%
2037-26-5	Toluene-D8	95%	91%	87%	70-130%
460-00-4	4-Bromofluorobenzene	89%	86%	82%	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16999-1MS	M53173.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1MSD	M53174.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1	M53169.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	MC16999-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		81	67.0	83	83.8	71.5	85	6	70-130/30
107-02-8	Acrolein	ND		405	369	91	419	331	79	11	70-130/30
107-13-1	Acrylonitrile	ND		81	74.6	92	83.8	76.6	91	3	70-130/30
71-43-2	Benzene	0.49	J	81	75.1	92	83.8	81.2	96	8	70-130/30
108-86-1	Bromobenzene	ND		81	67.3	83	83.8	71.0	85	5	70-130/30
74-97-5	Bromochloromethane	ND		81	74.0	91	83.8	78.2	93	6	70-130/30
75-27-4	Bromodichloromethane	ND		81	73.6	91	83.8	77.7	93	5	70-130/30
75-25-2	Bromoform	ND		81	70.6	87	83.8	71.4	85	1	70-130/30
74-83-9	Bromomethane	ND		81	87.3	108	83.8	92.5	110	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		81	57.3	71	83.8	81.6	97	35* [a]	70-130/30
104-51-8	n-Butylbenzene	ND		81	61.9	76	83.8	82.6	99	29	70-130/30
135-98-8	sec-Butylbenzene	ND		81	60.2	74	83.8	79.1	94	27	70-130/30
98-06-6	tert-Butylbenzene	ND		81	60.4	75	83.8	77.3	92	25	70-130/30
75-15-0	Carbon disulfide	ND		81	93.6	116	83.8	101	121	8	70-130/30
56-23-5	Carbon tetrachloride	ND		81	84.1	104	83.8	93.2	111	10	70-130/30
108-90-7	Chlorobenzene	ND		81	67.5	83	83.8	73.3	88	8	70-130/30
75-00-3	Chloroethane	ND		81	89.2	110	83.8	96.8	116	8	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		81	63.0	78	83.8	70.8	85	12	10-160/30
67-66-3	Chloroform	ND		81	75.3	93	83.8	80.7	96	7	70-130/30
74-87-3	Chloromethane	ND		81	101	125	83.8	112	134* [b]	10	70-130/30
95-49-8	o-Chlorotoluene	ND		81	62.0	77	83.8	71.2	85	14	70-130/30
106-43-4	p-Chlorotoluene	ND		81	64.0	79	83.8	73.0	87	13	70-130/30
124-48-1	Dibromochloromethane	ND		81	71.0	88	83.8	73.9	88	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		81	57.4	71	83.8	64.0	76	11	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		81	60.0	74	83.8	69.0	82	14	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		81	61.8	76	83.8	70.0	84	12	70-130/30
75-71-8	Dichlorodifluoromethane	ND		81	121	149* [b]	83.8	132	158* [b]	9	70-130/30
75-34-3	1,1-Dichloroethane	ND		81	78.3	97	83.8	84.2	101	7	70-130/30
107-06-2	1,2-Dichloroethane	ND		81	72.9	90	83.8	76.1	91	4	70-130/30
75-35-4	1,1-Dichloroethene	ND		81	91.5	113	83.8	99.3	119	8	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		81	73.7	91	83.8	78.8	94	7	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		81	81.0	100	83.8	88.4	106	9	70-130/30
78-87-5	1,2-Dichloropropane	ND		81	70.4	87	83.8	73.9	88	5	70-130/30
142-28-9	1,3-Dichloropropane	ND		81	69.5	86	83.8	72.8	87	5	70-130/30
594-20-7	2,2-Dichloropropane	ND		81	83.8	103	83.8	91.7	109	9	70-130/30
563-58-6	1,1-Dichloropropene	ND		81	83.7	103	83.8	92.8	111	10	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16999-1MS	M53173.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1MSD	M53174.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1	M53169.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Compound	MC16999-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		81	69.4	86	83.8	73.5	88	6	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		81	76.0	94	83.8	78.3	93	3	70-130/30
123-91-1	1,4-Dioxane	ND		405	410	101	419	409	98	0	70-130/30
97-63-2	Ethyl methacrylate	ND		81	75.8	94	83.8	76.4	91	1	41-160/30
100-41-4	Ethylbenzene	ND		81	72.7	90	83.8	82.8	99	13	70-130/30
87-68-3	Hexachlorobutadiene	ND		81	56.7	70	83.8	83.0	99	38* [a]	70-130/30
591-78-6	2-Hexanone	ND		81	84.2	104	83.8	79.1	94	6	70-130/30
98-82-8	Isopropylbenzene	ND		81	65.4	81	83.8	78.1	93	18	70-130/30
99-87-6	p-Isopropyltoluene	ND		81	65.3	81	83.8	86.1	103	27	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		81	69.7	86	83.8	75.1	90	7	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		81	81.5	101	83.8	82.4	98	1	70-130/30
74-95-3	Methylene bromide	ND		81	74.8	92	83.8	76.5	91	2	70-130/30
75-09-2	Methylene chloride	ND		81	69.8	86	83.8	74.3	89	6	70-130/30
91-20-3	Naphthalene	ND		81	52.7	65* [b]	83.8	59.5	71	12	70-130/30
103-65-1	n-Propylbenzene	ND		81	63.8	79	83.8	77.7	93	20	70-130/30
100-42-5	Styrene	ND		81	66.8	82	83.8	72.1	86	8	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		81	70.5	87	83.8	75.9	91	7	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		81	73.0	90	83.8	72.2	86	1	70-130/30
127-18-4	Tetrachloroethene	ND		81	80.1	99	83.8	92.1	110	14	70-130/30
108-88-3	Toluene	ND		81	78.4	97	83.8	84.5	101	7	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		81	47.4	59* [b]	83.8	60.5	72	24	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		81	51.9	64* [b]	83.8	66.5	79	25	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		81	82.5	102	83.8	89.9	107	9	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		81	71.5	88	83.8	73.5	88	3	70-130/30
79-01-6	Trichloroethene	ND		81	79.5	98	83.8	87.1	104	9	70-130/30
75-69-4	Trichlorofluoromethane	ND		81	96.6	119	83.8	107	128	10	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		81	75.8	94	83.8	74.1	88	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		81	63.5	78	83.8	77.5	93	20	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		81	63.5	78	83.8	78.2	93	21	70-130/30
108-05-4	Vinyl Acetate	ND		81	89.0	110	83.8	84.7	101	5	70-130/30
75-01-4	Vinyl chloride	ND		81	91.3	113	83.8	101	121	10	70-130/30
	m,p-Xylene	ND		162	142	88	168	163	97	14	70-130/30
95-47-6	o-Xylene	ND		81	67.9	84	83.8	76.9	92	12	70-130/30
1330-20-7	Xylene (total)	ND		243	210	86	251	240	96	13	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16999-1MS	M53173.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1MSD	M53174.D	1	12/28/12	AMY	n/a	n/a	MSM1806
MC16999-1	M53169.D	1	12/28/12	AMY	n/a	n/a	MSM1806

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-1, MC16999-4, MC16999-7

CAS No.	Surrogate Recoveries	MS	MSD	MC16999-1	Limits
1868-53-7	Dibromofluoromethane	86%	86%	88%	70-130%
2037-26-5	Toluene-D8	89%	89%	88%	70-130%
460-00-4	4-Bromofluorobenzene	83%	81%	82%	70-130%

(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.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17098-24MS	G123345.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24MSD	G123346.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24	G123337.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-9

CAS No.	Compound	MC17098-24 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		3450	6940	201* [a]	3450	7180	208* [a]	3	70-130/30
107-02-8	Acrolein	ND		17300	11100	64* [a]	17300	11700	68* [a]	5	70-130/30
107-13-1	Acrylonitrile	ND		3450	3380	98	3450	3390	98	0	70-130/30
71-43-2	Benzene	ND		3450	3410	99	3450	3270	95	4	70-130/30
108-86-1	Bromobenzene	ND		3450	3580	104	3450	3460	100	3	70-130/30
74-97-5	Bromochloromethane	ND		3450	3680	107	3450	3610	105	2	70-130/30
75-27-4	Bromodichloromethane	ND		3450	3660	106	3450	3520	102	4	70-130/30
75-25-2	Bromoform	ND		3450	3390	98	3450	3430	99	1	70-130/30
74-83-9	Bromomethane	ND		3450	3530	102	3450	3440	100	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		3450	5630	163* [a]	3450	5350	155* [a]	5	70-130/30
104-51-8	n-Butylbenzene	ND		3450	3270	95	3450	3200	93	2	70-130/30
135-98-8	sec-Butylbenzene	ND		3450	3190	92	3450	3070	89	4	70-130/30
98-06-6	tert-Butylbenzene	ND		3450	3220	93	3450	3100	90	4	70-130/30
75-15-0	Carbon disulfide	ND		3450	3300	96	3450	3210	93	3	70-130/30
56-23-5	Carbon tetrachloride	ND		3450	3240	94	3450	3060	89	6	70-130/30
108-90-7	Chlorobenzene	ND		3450	3460	100	3450	3380	98	2	70-130/30
75-00-3	Chloroethane	ND		3450	3330	96	3450	3260	94	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		3450	2750	80	3450	2710	78	1	10-160/30
67-66-3	Chloroform	ND		3450	3550	103	3450	3450	100	3	70-130/30
74-87-3	Chloromethane	ND		3450	4020	116	3450	3850	112	4	70-130/30
95-49-8	o-Chlorotoluene	ND		3450	3230	94	3450	3090	89	4	70-130/30
106-43-4	p-Chlorotoluene	ND		3450	3440	100	3450	3290	95	4	70-130/30
124-48-1	Dibromochloromethane	ND		3450	3660	106	3450	3620	105	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		3450	3430	99	3450	3350	97	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		3450	3390	98	3450	3320	96	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		3450	3600	104	3450	3500	101	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		3450	4190	121	3450	3880	112	8	70-130/30
75-34-3	1,1-Dichloroethane	ND		3450	3540	103	3450	3430	99	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		3450	3630	105	3450	3540	103	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		3450	3540	103	3450	3440	100	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		3450	3490	101	3450	3410	99	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		3450	3480	101	3450	3370	98	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		3450	3470	101	3450	3410	99	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		3450	3520	102	3450	3470	101	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		3450	3440	100	3450	3330	96	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		3450	3280	95	3450	3170	92	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17098-24MS	G123345.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24MSD	G123346.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24	G123337.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-9

CAS No.	Compound	MC17098-24 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		3450	3510	102	3450	3420	99	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		3450	3770	109	3450	3690	107	2	70-130/30
123-91-1	1,4-Dioxane	ND		17300	9950	58* [a]	17300	13800	80	32* [b]	70-130/30
97-63-2	Ethyl methacrylate	ND		3450	3550	103	3450	3510	102	1	41-160/30
100-41-4	Ethylbenzene	ND		3450	3470	101	3450	3370	98	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		3450	3290	95	3450	3230	94	2	70-130/30
591-78-6	2-Hexanone	ND		3450	5660	164* [a]	3450	5540	160* [a]	2	70-130/30
98-82-8	Isopropylbenzene	ND		3450	3230	94	3450	3060	89	5	70-130/30
99-87-6	p-Isopropyltoluene	ND		3450	3530	102	3450	3350	97	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		3450	3700	107	3450	3610	105	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3450	3340	97	3450	3300	96	1	70-130/30
74-95-3	Methylene bromide	ND		3450	3590	104	3450	3530	102	2	70-130/30
75-09-2	Methylene chloride	ND		3450	3600	104	3450	3590	104	0	70-130/30
91-20-3	Naphthalene	ND		3450	3660	106	3450	3670	106	0	70-130/30
103-65-1	n-Propylbenzene	ND		3450	3200	93	3450	3050	88	5	70-130/30
100-42-5	Styrene	ND		3450	3440	100	3450	3360	97	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		3450	3540	103	3450	3420	99	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		3450	3630	105	3450	3550	103	2	70-130/30
127-18-4	Tetrachloroethene	ND		3450	3360	97	3450	3310	96	1	70-130/30
108-88-3	Toluene	ND		3450	3500	101	3450	3350	97	4	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		3450	3510	102	3450	3490	101	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		3450	3460	100	3450	3380	98	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		3450	3220	93	3450	3070	89	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		3450	3590	104	3450	3560	103	1	70-130/30
79-01-6	Trichloroethene	ND		3450	3440	100	3450	3280	95	5	70-130/30
75-69-4	Trichlorofluoromethane	ND		3450	3350	97	3450	3220	93	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		3450	3630	105	3450	3540	103	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	35.9		3450	3340	96	3450	3220	92	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		3450	3320	96	3450	3200	93	4	70-130/30
108-05-4	Vinyl Acetate	ND		3450	3530	102	3450	3300	96	7	70-130/30
75-01-4	Vinyl chloride	ND		3450	2250	65* [a]	3450	2330	67* [a]	3	70-130/30
	m,p-Xylene	ND		6910	6850	99	6910	6700	97	2	70-130/30
95-47-6	o-Xylene	ND		3450	3450	100	3450	3330	96	4	70-130/30
1330-20-7	Xylene (total)	ND		10400	10300	99	10400	10000	97	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17098-24MS	G123345.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24MSD	G123346.D	1	12/31/12	AMY	n/a	n/a	MSG4900
MC17098-24	G123337.D	1	12/31/12	AMY	n/a	n/a	MSG4900

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-9

CAS No.	Surrogate Recoveries	MS	MSD	MC17098-24	Limits
1868-53-7	Dibromofluoromethane	93%	92%	90%	70-130%
2037-26-5	Toluene-D8	82%	81%	83%	70-130%
460-00-4	4-Bromofluorobenzene	87%	83%	87%	70-130%

(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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17058-17MS	T28268.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17MSD	T28269.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17	T28267.D	1	01/01/13	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-5

CAS No.	Compound	MC17058-17 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	213	85	250	219	88	3	70-130/30
107-02-8	Acrolein	ND		1250	998	80	1250	994	80	0	70-130/30
107-13-1	Acrylonitrile	ND		250	1090	436* [a]	250	1110	444* [a]	2	70-130/30
71-43-2	Benzene	ND		250	238	95	250	246	98	3	70-130/30
108-86-1	Bromobenzene	ND		250	247	99	250	254	102	3	70-130/30
74-97-5	Bromochloromethane	ND		250	211	84	250	219	88	4	70-130/30
75-27-4	Bromodichloromethane	ND		250	223	89	250	231	92	4	70-130/30
75-25-2	Bromoform	ND		250	224	90	250	233	93	4	70-130/30
74-83-9	Bromomethane	ND		250	216	86	250	224	90	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	220	88	250	218	87	1	70-130/30
104-51-8	n-Butylbenzene	ND		250	227	91	250	241	96	6	70-130/30
135-98-8	sec-Butylbenzene	ND		250	239	96	250	251	100	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	235	94	250	246	98	5	70-130/30
75-15-0	Carbon disulfide	ND		250	168	67* [b]	250	177	71	5	70-130/30
56-23-5	Carbon tetrachloride	ND		250	222	89	250	232	93	4	70-130/30
108-90-7	Chlorobenzene	ND		250	248	99	250	254	102	2	70-130/30
75-00-3	Chloroethane	ND		250	192	77	250	211	84	9	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	8.2	3* [b]	250	10.7	4* [b]	26	70-130/30
67-66-3	Chloroform	ND		250	199	80	250	205	82	3	70-130/30
74-87-3	Chloromethane	ND		250	190	76	250	203	81	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	239	96	250	251	100	5	70-130/30
106-43-4	p-Chlorotoluene	ND		250	230	92	250	243	97	5	70-130/30
124-48-1	Dibromochloromethane	ND		250	220	88	250	228	91	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	244	98	250	253	101	4	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	242	97	250	251	100	4	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	239	96	250	250	100	4	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	170	68* [b]	250	178	71	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	216	86	250	223	89	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	221	88	250	229	92	4	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	206	82	250	216	86	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	2.9		250	231	91	250	238	94	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	227	91	250	237	95	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	211	84	250	216	86	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	231	92	250	236	94	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	185	74	250	190	76	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	223	89	250	234	94	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17058-17MS	T28268.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17MSD	T28269.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17	T28267.D	1	01/01/13	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: Method: SW846 8260B

MC16999-5

CAS No.	Compound	MC17058-17 ug/l	Q	Spike 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	219	88	250	226	90	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	215	86	250	222	89	3	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1250	1090	87	1	70-130/30
97-63-2	Ethyl methacrylate	ND		250	234	94	250	239	96	2	72-139/30
100-41-4	Ethylbenzene	ND		250	246	98	250	253	101	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	216	86	250	240	96	11	70-130/30
591-78-6	2-Hexanone	ND		250	227	91	250	243	97	7	70-130/30
98-82-8	Isopropylbenzene	ND		250	240	96	250	251	100	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	226	90	250	239	96	6	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	223	89	250	227	91	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	233	93	250	244	98	5	70-130/30
74-95-3	Methylene bromide	ND		250	224	90	250	230	92	3	70-130/30
75-09-2	Methylene chloride	ND		250	209	84	250	214	86	2	70-130/30
91-20-3	Naphthalene	ND		250	230	92	250	265	106	14	70-130/30
103-65-1	n-Propylbenzene	ND		250	235	94	250	248	99	5	70-130/30
100-42-5	Styrene	ND		250	255	102	250	265	106	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	246	98	250	251	100	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	231	92	250	240	96	4	70-130/30
127-18-4	Tetrachloroethene	4.4		250	248	97	250	258	101	4	70-130/30
108-88-3	Toluene	ND		250	238	95	250	246	98	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	228	91	250	264	106	15	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	225	90	250	248	99	10	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	224	90	250	236	94	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	232	93	250	236	94	2	70-130/30
79-01-6	Trichloroethene	43.6		250	276	93	250	291	99	5	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	202	81	250	212	85	5	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	216	86	250	225	90	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	242	97	250	254	102	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	240	96	250	251	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	207	83	250	213	85	3	70-130/30
75-01-4	Vinyl chloride	ND		250	217	87	250	226	90	4	70-130/30
	m,p-Xylene	ND		500	503	101	500	518	104	3	70-130/30
95-47-6	o-Xylene	ND		250	250	100	250	258	103	3	70-130/30
1330-20-7	Xylene (total)	ND		750	753	100	750	775	103	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17058-17MS	T28268.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17MSD	T28269.D	5	01/01/13	DFT	n/a	n/a	MST987
MC17058-17	T28267.D	1	01/01/13	DFT	n/a	n/a	MST987

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC16999-5

CAS No.	Surrogate Recoveries	MS	MSD	MC17058-17	Limits
1868-53-7	Dibromofluoromethane	107%	106%	104%	70-130%
2037-26-5	Toluene-D8	120%	120%	121%	70-130%
460-00-4	4-Bromofluorobenzene	113%	115%	114%	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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4896-CC4894	**Injection Date:**	12/26/12
Lab File ID:	G123182.D	**Injection Time:**	08:58
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	196382	5.13	268051	6.27	130303	9.62	136210	12.25	53108	3.10
Upper Limit [a]	392764	5.63	536102	6.77	260606	10.12	272420	12.75	106216	3.60
Lower Limit [b]	98191	4.63	134026	5.77	65152	9.12	68105	11.75	26554	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4896-BS	196915	5.13	272056	6.27	134789	9.62	142300	12.25	52111	3.10
MSG4896-MB	196304	5.13	264302	6.27	132871	9.62	135986	12.25	48586	3.10
MC16999-2	194846	5.13	264169	6.27	133807	9.62	133245	12.25	43949	3.10
MC16999-3	198935	5.13	271316	6.27	141634	9.63	139349	12.25	43848	3.10
MC16999-6	201784	5.13	278498	6.27	161618	9.63	143022	12.25	46970	3.09
MC16999-11	207854	5.13	285154	6.27	155202	9.63	147928	12.25	47654	3.09
MC16999-10	206994	5.13	284865	6.27	138705	9.62	139111	12.25	48015	3.09
MC17145-1	202534	5.13	274281	6.27	134807	9.62	138666	12.25	46563	3.10
MC17145-1MS	200478	5.13	271959	6.27	136482	9.62	142079	12.25	45801	3.10
MC17145-1MSD	200589	5.13	274164	6.27	134559	9.62	143783	12.25	48055	3.10
ZZZZZZ	198613	5.13	270199	6.27	133714	9.62	136506	12.25	43526	3.10
ZZZZZZ	200786	5.13	271545	6.27	135073	9.62	136843	12.25	47086	3.10
ZZZZZZ	199342	5.13	269106	6.27	134875	9.62	135254	12.25	44472	3.10
ZZZZZZ	199995	5.13	268546	6.27	133295	9.62	135150	12.25	47611	3.10
ZZZZZZ	198998	5.13	270002	6.27	133962	9.62	137371	12.25	44805	3.10
MC16999-12	207056	5.13	282813	6.27	139063	9.62	137288	12.25	48962	3.09

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 Internal Standard Area Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4900-CC4894	**Injection Date:**	12/31/12
Lab File ID:	G123328.D	**Injection Time:**	10:33
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	213181	5.13	290699	6.27	143115	9.62	148665	12.25	40413	3.10
Upper Limit [a]	426362	5.63	581398	6.77	286230	10.12	297330	12.75	80826	3.60
Lower Limit [b]	106591	4.63	145350	5.77	71558	9.12	74333	11.75	20207	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4900-BS	213181	5.13	290699	6.27	143115	9.62	148665	12.25	40413	3.10
MSG4900-BSD	207210	5.13	284536	6.27	140865	9.62	146846	12.25	39777	3.10
MSG4900-MB	203671	5.13	280929	6.27	138154	9.62	136865	12.25	36576	3.10
ZZZZZZ	205188	5.13	281630	6.27	139519	9.62	144044	12.25	41274	3.10
MC16999-9	211127	5.13	292179	6.27	141213	9.62	141176	12.25	35477	3.09
ZZZZZZ	210255	5.13	300707	6.27	180917	9.63	158460	12.25	30901	3.09
MC17098-24	210411	5.13	287215	6.27	139956	9.62	141781	12.25	29876	3.09
ZZZZZZ	209836	5.13	290836	6.27	144417	9.62	147392	12.25	28961	3.09
ZZZZZZ	210113	5.13	285991	6.27	140202	9.62	141518	12.25	32765	3.09
ZZZZZZ	206303	5.13	280862	6.27	139489	9.62	143315	12.25	36438	3.09
ZZZZZZ	202290	5.13	274747	6.27	136314	9.62	140563	12.25	36843	3.10
ZZZZZZ	207157	5.13	282318	6.27	142210	9.62	143271	12.25	35577	3.09
ZZZZZZ	206878	5.13	281199	6.27	146869	9.63	153174	12.26	36677	3.09
ZZZZZZ	206884	5.13	281365	6.27	141564	9.62	140931	12.25	38188	3.09
MC17098-24MS	207099	5.13	282078	6.27	140365	9.62	146733	12.25	38591	3.09
MC17098-24MSD	207963	5.13	284320	6.27	140410	9.62	150079	12.25	38477	3.09

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 Internal Standard Area Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSK2166-CC2132	**Injection Date:**	12/21/12
Lab File ID:	K65917.D	**Injection Time:**	09:31
Instrument ID:	GCMSK	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	126267	8.82	196197	9.67	93091	12.93	95974	15.49	28934	6.42
Upper Limit [a]	252534	9.32	392394	10.17	186182	13.43	191948	15.99	57868	6.92
Lower Limit [b]	63134	8.32	98099	9.17	46546	12.43	47987	14.99	14467	5.92

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2166-BS	122897	8.82	190867	9.67	91205	12.93	95387	15.49	28316	6.42
MSK2166-BSD	122955	8.82	191701	9.67	90439	12.93	99353	15.49	27783	6.43
MSK2166-MB	121587	8.82	193471	9.67	86756	12.93	101100	15.49	26332	6.43
ZZZZZZ	123092	8.82	193325	9.67	80880	12.93	99359	15.49	25508	6.43
ZZZZZZ	119733	8.82	192604	9.67	82823	12.93	103611	15.49	22212	6.42
ZZZZZZ	119556	8.82	191488	9.67	79865	12.93	99104	15.49	21136	6.41
ZZZZZZ	118368	8.82	185189	9.67	79560	12.93	97293	15.49	21243	6.42
ZZZZZZ	115157	8.82	182900	9.67	77982	12.93	97961	15.49	18881	6.41
ZZZZZZ	113891	8.82	182059	9.67	76227	12.93	94855	15.49	23247	6.41
ZZZZZZ	115000	8.82	180748	9.67	75635	12.93	94050	15.49	21670	6.42
ZZZZZZ	116667	8.82	184775	9.67	80846	12.93	98692	15.49	22853	6.44
ZZZZZZ	119975	8.82	188128	9.67	83501	12.93	95615	15.49	24369	6.42
ZZZZZZ	115302	8.82	184839	9.67	80202	12.93	97527	15.49	25020	6.41
MC16996-3	123013	8.82	191711	9.67	82887	12.93	100131	15.49	21960	6.41
MC16996-3MS	118908	8.82	188308	9.67	85159	12.93	99900	15.49	21305	6.41
MC16996-3MSD	127041	8.82	192321	9.67	85671	12.93	101509	15.49	22268	6.42
ZZZZZZ	132236	8.82	201147	9.67	82771	12.93	102076	15.49	20361	6.41
MC16999-2	125603	8.82	197970	9.67	90222	12.93	106229	15.49	22654	6.41
MC16999-3	129683	8.82	197287	9.67	90051	12.93	103404	15.49	21396	6.42
MC16999-12	133195	8.82	184188	9.67	88610	12.93	103931	15.49	25499	6.42
MC16999-6	131536	8.82	198400	9.67	88417	12.93	103841	15.49	26747	6.41
MC16999-11	128911	8.82	194873	9.67	90859	12.93	106262	15.49	26800	6.41
MC16999-10	135568	8.82	196748	9.67	93546	12.93	109272	15.49	24487	6.40

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 Internal Standard Area Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSM1806-CC1800	**Injection Date:**	12/28/12
Lab File ID:	M53163.D	**Injection Time:**	11:22
Instrument ID:	GCMSM	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	173299	9.36	235211	10.24	117006	13.52	132416	16.08	39437	6.87
Upper Limit [a]	346598	9.86	470422	10.74	234012	14.02	264832	16.58	78874	7.37
Lower Limit [b]	86650	8.86	117606	9.74	58503	13.02	66208	15.58	19719	6.37

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSM1806-BS	163710	9.36	224497	10.24	112617	13.52	132252	16.08	81702[c]	6.86
MSM1805-BS1	163710	9.36	224497	10.24	112617	13.52	132252	16.08	81702[c]	6.86
MSM1806-MB	172436	9.36	232442	10.24	111084	13.52	135750	16.08	35961	6.86
MSM1805-MB1	172436	9.36	232442	10.24	111084	13.52	135750	16.08	35961	6.86
MC17156-6MSD	168026	9.36	228465	10.24	115455	13.52	132327	16.08	83142[c]	6.85
MC16999-1	167958	9.36	231649	10.24	113379	13.52	135295	16.08	57519	6.86
MC16999-4	173461	9.36	240025	10.24	117213	13.52	136771	16.08	63208	6.86
MC16999-7	173436	9.36	237714	10.24	114587	13.52	137263	16.08	69045	6.86
ZZZZZZ	176636	9.36	237205	10.24	116669	13.52	133355	16.08	56739	6.86
MC16999-1MS	170605	9.36	236104	10.24	118568	13.52	136432	16.08	82307[c]	6.86
MC16999-1MSD	169923	9.36	236090	10.24	118380	13.52	138227	16.08	84603[c]	6.85
ZZZZZZ	173399	9.36	240001	10.24	117301	13.52	143276	16.08	81175[c]	6.86
ZZZZZZ	176917	9.36	241780	10.24	119429	13.52	144025	16.08	72631	6.86
ZZZZZZ	178397	9.36	244621	10.24	120908	13.52	143132	16.08	67801	6.86
ZZZZZZ	177909	9.36	241965	10.24	116211	13.52	139479	16.08	40154	6.86
ZZZZZZ	180126	9.36	242757	10.24	117501	13.52	141621	16.08	37284	6.86
ZZZZZZ	179902	9.36	246525	10.24	119062	13.52	142481	16.08	39089	6.86
ZZZZZZ	178502	9.36	242991	10.24	118836	13.52	141267	16.08	41213	6.86
ZZZZZZ	172725	9.36	236177	10.24	112464	13.52	133633	16.08	38616	6.86
ZZZZZZ	172828	9.36	234544	10.24	113041	13.52	133102	16.08	40116	6.86
ZZZZZZ	163814	9.36	223200	10.24	109309	13.52	134368	16.08	79213[c]	6.86

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. Target analytes not associated with this internal standard.

Volatile Internal Standard Area Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MST987-CC983	**Injection Date:**	12/31/12
Lab File ID:	T28261.D	**Injection Time:**	21:33
Instrument ID:	GCMST	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	437157	8.68	686511	9.57	383003	12.87	333112	15.47	81716	6.22
Upper Limit [a]	874314	9.18	1373022	10.07	766006	13.37	666224	15.97	163432	6.72
Lower Limit [b]	218579	8.18	343256	9.07	191502	12.37	166556	14.97	40858	5.72

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MST987-BS	494114	8.68	779018	9.57	435195	12.87	372135	15.47	93358	6.22
MST987-BSD	487892	8.68	774639	9.57	426084	12.87	370503	15.47	93039	6.22
MST987-MB	415184	8.69	639619	9.57	335840	12.88	284466	15.47	84895	6.23
MC16999-5	409313	8.69	635153	9.57	332180	12.88	283997	15.47	84702	6.22
MC17058-17	398391	8.69	608842	9.57	322576	12.88	273228	15.47	78138	6.23
MC17058-17MS	456236	8.69	720617	9.57	398471	12.87	349335	15.47	86488	6.23
MC17058-17MSD	455468	8.69	715169	9.57	397533	12.88	344646	15.47	85535	6.23
ZZZZZZ	423226	8.68	646978	9.57	343139	12.88	294092	15.47	84973	6.22
ZZZZZZ	430933	8.69	659910	9.57	353852	12.88	296437	15.47	87701	6.22
ZZZZZZ	426628	8.69	656021	9.57	344368	12.88	293148	15.47	88419	6.23
ZZZZZZ	411765	8.68	629430	9.57	329297	12.88	282248	15.47	84549	6.22
ZZZZZZ	409443	8.69	625850	9.57	361632	12.88	294529	15.47	78644	6.23
ZZZZZZ	431901	8.69	653187	9.57	375790	12.88	307122	15.47	82474	6.23
ZZZZZZ	430240	8.69	659635	9.57	348176	12.88	297188	15.47	86113	6.22
ZZZZZZ	395165	8.69	609945	9.57	328405	12.88	275004	15.47	77930	6.23
ZZZZZZ	429142	8.69	658699	9.57	354424	12.88	297113	15.47	89473	6.22
ZZZZZZ	440599	8.68	677359	9.57	361647	12.88	303894	15.47	92490	6.22
ZZZZZZ	419485	8.69	649193	9.57	341875	12.88	288957	15.47	87973	6.23
ZZZZZZ	398860	8.68	613221	9.57	325187	12.88	271799	15.47	84685	6.22
ZZZZZZ	432560	8.69	664670	9.57	353494	12.88	299269	15.47	90068	6.23
ZZZZZZ	458165	8.69	709021	9.57	367955	12.88	343336	15.47	90940	6.23
ZZZZZZ	408524	8.68	626375	9.57	334569	12.88	279617	15.47	87411	6.23

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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, 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
MC16999-5	T28266.D	105	119	114
MC17058-17MS	T28268.D	107	120	113
MC17058-17MSD	T28269.D	106	120	115
MST987-BS	T28262.D	107	120	116
MST987-BSD	T28263.D	108	119	114
MST987-MB	T28265.D	104	119	116

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

Volatile Surrogate Recovery Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC16999-1	M53169.D	88	88	82
MC16999-2	G123187.D	100	96	91
MC16999-2	K65937.D	108	105	103
MC16999-3	K65938.D	106	104	109
MC16999-3	G123188.D	92	88	83
MC16999-4	M53170.D	83	88	88
MC16999-6	K65940.D	108	111	119
MC16999-6	G123189.D	92	88	83
MC16999-7	M53171.D	85	87	82
MC16999-9	G123333.D	91	80	86
MC16999-10	K65942.D	106	108	103
MC16999-10	G123191.D	93	89	86
MC16999-11	K65941.D	105	107	107
MC16999-11	G123190.D	90	87	85
MC16999-12	G123204.D	91	85	83
MC16999-12	K65939.D	102	112	108
MC16996-3MS	K65934.D	106	99	107
MC16996-3MSD	K65935.D	104	102	110
MC16999-1MS	M53173.D	86	89	83
MC16999-1MSD	M53174.D	86	89	81
MC17098-24MS	G123345.D	93	82	87
MC17098-24MSD	G123346.D	92	81	83
MC17145-1MS	G123197.D	98	95	89
MC17145-1MSD	G123198.D	98	91	86
MSG4896-BS	G123184.D	101	94	88
MSG4896-MB	G123186.D	101	97	91
MSG4900-BS	G123328.D	101	95	91
MSG4900-BSD	G123329.D	99	94	91
MSG4900-MB	G123331.D	96	90	88
MSK2166-BS	K65918.D	105	107	116
MSK2166-BSD	K65919.D	105	104	108
MSK2166-MB	K65921.D	110	107	103
MSM1806-BS	M53164.D	84	88	80
MSM1806-MB	M53166.D	82	88	79

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

Volatile Surrogate Recovery Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits
S3 = 4-Bromofluorobenzene	70-130%

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: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31493-MB	BK20274.D	1	12/28/12	AP	12/19/12	OP31493	GBK733

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

MC16999-1, MC16999-2, MC16999-3, MC16999-4, MC16999-6, MC16999-7, MC16999-9, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.5	0.96	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	96%	61-167%
460-00-4	Bromofluorobenzene (S)	126%	61-167%

Method Blank Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31513-MB	BB45031A.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726

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

MC16999-5

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)	101%	36-173%

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31493-BS	BK20275.D	1	12/28/12	AP	12/19/12	OP31493	GBK733

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

MC16999-1, MC16999-2, MC16999-3, MC16999-4, MC16999-6, MC16999-7, MC16999-9, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	32.6	35.8	110	59-142
106-93-4	1,2-Dibromoethane	32.6	37.6	115	56-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	85%	61-167%
460-00-4	Bromofluorobenzene (S)	114%	61-167%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31513-BS	BB45032A.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726

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

MC16999-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.061	86	60-140
106-93-4	1,2-Dibromoethane	0.071	0.063	89	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	96%	36-173%
460-00-4	Bromofluorobenzene (S)	103%	36-173%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31493-MS	BK20289.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
OP31493-MSD	BK20290.D	1	12/28/12	AP	12/19/12	OP31493	GBK733
MC16961-2	BK20292.D	1	12/28/12	AP	12/19/12	OP31493	GBK733

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

MC16999-1, MC16999-2, MC16999-3, MC16999-4, MC16999-6, MC16999-7, MC16999-9, MC16999-10, MC16999-11, MC16999-12

CAS No.	Compound	MC16961-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		67.7	77.2	114	68.9	79.9	116	3	40-156/27
106-93-4	1,2-Dibromoethane	ND		67.7	85.7	127	68.9	88.0	128	3	48-141/27

CAS No.	Surrogate Recoveries	MS	MSD	MC16961-2	Limits
460-00-4	Bromofluorobenzene (S)	98%	102%	108%	61-167%
460-00-4	Bromofluorobenzene (S)	116%	130%	131%	61-167%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31513-MS	BB45033A.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726
OP31513-MSD	BB45034A.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726
MC17000-5	BB45035A.D	1	12/21/12	CZ	12/21/12	OP31513	GBB2726

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

MC16999-5

CAS No.	Compound	MC17000-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.0698	0.059	85	0.0698	0.063	90	7	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0698	0.063	90	0.0698	0.065	93	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17000-5	Limits
460-00-4	Bromofluorobenzene (S)	95%	100%	95%	36-173%
460-00-4	Bromofluorobenzene (S)	99%	104%	99%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC16999-5	BB45038.D	100	105
OP31513-BS	BB45032A.D	96	103
OP31513-MB	BB45031A.D	94	101
OP31513-MS	BB45033A.D	95	99
OP31513-MSD	BB45034A.D	100	104

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Volatile Surrogate Recovery Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC16999-1	BK20278.D	97	126
MC16999-2	BK20279.D	101	133
MC16999-3	BK20280.D	92	123
MC16999-4	BK20281.D	102	124
MC16999-6	BK20285.D	98	117
MC16999-7	BK20282.D	104	135
MC16999-9	BK20283.D	97	125
MC16999-10	BK20287.D	98	129
MC16999-11	BK20288.D	96	128
MC16999-12	BK20286.D	97	123
OP31493-BS	BK20275.D	85	114
OP31493-MB	BK20274.D	96	126
OP31493-MS	BK20289.D	98	116
OP31493-MSD	BK20290.D	102	130

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	61-167%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBB2726-ICC2726	**Injection Date:**	12/21/12
Lab File ID:	BB45025.D	**Injection Time:**	17:14
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.62	3.38

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB45029B.D	12/21/12	19:02	3.62	3.38
ZZZZZZ	BB45029A.D	12/21/12	19:02	3.62	3.38
OP31512-MB	BB45031.D	12/21/12	19:56	3.62	3.38
OP31513-MB	BB45031A.D	12/21/12	19:56	3.62	3.38
OP31512-BS	BB45032.D	12/21/12	20:23	3.62	3.38
OP31513-BS	BB45032A.D	12/21/12	20:23	3.62	3.38
OP31512-MS	BB45033.D	12/21/12	20:50	3.62	3.38
OP31513-MS	BB45033A.D	12/21/12	20:50	3.62	3.38
OP31512-MSD	BB45034.D	12/21/12	21:17	3.62	3.38
OP31513-MSD	BB45034A.D	12/21/12	21:17	3.62	3.38
MC16984-9	BB45035.D	12/21/12	21:44	3.62	3.38
MC17000-5	BB45035A.D	12/21/12	21:44	3.62	3.38
ZZZZZZ	BB45036.D	12/21/12	22:10	3.62	3.38
ZZZZZZ	BB45037.D	12/21/12	22:37	3.62	3.38
MC16999-5	BB45038.D	12/21/12	23:04	3.62	3.38
GBB2726-ECC2726	BB45039.D	12/22/12	06:22	3.61	3.38

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBK733-CC720	**Injection Date:**	12/28/12
Lab File ID:	BK20273.D	**Injection Time:**	14:13
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.45	4.78

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31493-MB	BK20274.D	12/28/12	14:39	4.45	4.78
OP31493-BS	BK20275.D	12/28/12	15:03	4.45	4.78
ZZZZZZ	BK20276.D	12/28/12	15:28	4.45	4.78
ZZZZZZ	BK20277.D	12/28/12	15:52	4.45	4.78
MC16999-1	BK20278.D	12/28/12	16:16	4.45	4.78
MC16999-2	BK20279.D	12/28/12	16:40	4.45	4.78
MC16999-3	BK20280.D	12/28/12	17:04	4.45	4.78
MC16999-4	BK20281.D	12/28/12	17:29	4.45	4.78
MC16999-7	BK20282.D	12/28/12	17:53	4.45	4.78
MC16999-9	BK20283.D	12/28/12	18:17	4.45	4.78

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBK733-CC720	**Injection Date:**	12/28/12
Lab File ID:	BK20284.D	**Injection Time:**	18:41
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.45	4.78

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC16999-6	BK20285.D	12/28/12	19:06	4.45	4.77
MC16999-12	BK20286.D	12/28/12	19:30	4.45	4.78
MC16999-10	BK20287.D	12/28/12	19:54	4.45	4.78
MC16999-11	BK20288.D	12/28/12	20:19	4.45	4.78
OP31493-MS	BK20289.D	12/28/12	20:44	4.45	4.78
OP31493-MSD	BK20290.D	12/28/12	21:08	4.45	4.78
ZZZZZZ	BK20291.D	12/28/12	21:32	4.45	4.78
MC16961-2	BK20292.D	12/28/12	21:56	4.45	4.78
ZZZZZZ	BK20293.D	12/28/12	22:21	4.45	4.78
ZZZZZZ	BK20294.D	12/28/12	22:45	4.45	4.78
GBK733-ECC720	BK20295.D	12/28/12	23:09	4.45	4.78

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC16999-1 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-14-13

Wet Weight (Total)	27.652	g
Tare Weight	19.996	g
Dry Weight (Total)	25.721	g
Solids, Percent	74.8	%

Sample: MC16999-2 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-14-33

Wet Weight (Total)	34.954	g
Tare Weight	25.657	g
Dry Weight (Total)	33.838	g
Solids, Percent	88	%

Sample: MC16999-3 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-14-39

Wet Weight (Total)	27.476	g
Tare Weight	19.31	g
Dry Weight (Total)	26.279	g
Solids, Percent	85.3	%

Sample: MC16999-4 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-14-45

Wet Weight (Total)	30.087	g
Tare Weight	22.526	g
Dry Weight (Total)	29.21	g
Solids, Percent	88.4	%

Sample: MC16999-6 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-19

Wet Weight (Total)	37.364	g
Tare Weight	28.607	g
Dry Weight (Total)	36.994	g
Solids, Percent	95.8	%

Sample: MC16999-7 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-29

Wet Weight (Total)	26.24	g
Tare Weight	18.885	g
Dry Weight (Total)	25.97	g
Solids, Percent	96.3	%

Percent Solids Raw Data Summary

Job Number: MC16999
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC16999-9 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-37

Wet Weight (Total)	30.532	g
Tare Weight	21.083	g
Dry Weight (Total)	29.359	g
Solids, Percent	87.6	%

Sample: MC16999-10 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-47

Wet Weight (Total)	30.436	g
Tare Weight	21.937	g
Dry Weight (Total)	29.335	g
Solids, Percent	87	%

Sample: MC16999-11 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-55

Wet Weight (Total)	39.284	g
Tare Weight	30.993	g
Dry Weight (Total)	38.165	g
Solids, Percent	86.5	%

Sample: MC16999-12 **Analyzed:** 21-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-37 DUP

Wet Weight (Total)	30.532	g
Tare Weight	21.083	g
Dry Weight (Total)	29.359	g
Solids, Percent	87.6	%

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e-Hardcopy 2.0
Automated Report

Technical Report for

Shell Oil

URSMOSTL: Roxana Drilling, Roxana, IL

21562735.15000

SGS Accutest Job Number: MC17144

Sampling Date: 12/21/12

Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 61

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.

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Unauthorized modification of this report is strictly prohibited.

SGS ACCUTEST

October 20, 2016

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

RE: SGS Accutest Job # MC17144

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: MC17144

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562735.15000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC17144-1	12/21/12	09:05 WPBS	12/24/12	SO	Soil	GP-15-74
MC17144-2	12/21/12	10:55 WPBS	12/24/12	SO	Soil	GP-15-89
MC17144-3	12/21/12	00:00 WPBS	12/24/12	AQ	Trip Blank Water	TRIP BLANK

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

2

Client: She O **Job No** MC 7 44

Site: URSMOSTL: Roxana Dr ng, Roxana, IL **Report Date** 0/24/20 6 2:28:5 P

2 Samp e(s), Tr p B ank(s) and 0 F e d B ank(s) were co ected on 2/2 /20 2 and were rece ved at SGS Accutest New Eng and on 2/24/20 2 proper y preserved, at 2 8 Deg C and ntact These Samp es rece ved a job number of MC 7 44 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 was 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:** MSH 970

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7020- MS, MC 7020- 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
- Samp e(s) MC 7 44-3 have compounds reported w th "D" qua f ers nd cat ng resu ts from the d uted ana ys s
- B ank Sp ke Recove y(s) for 2,2-D ch oropropane, Acetone, Carbon tetrach or de, D ch orod f uoromethane are outs de contro m ts
- Matr x Sp ke Recovery(s) for , , -Tr ch oroethane, 2,2-D ch oropropane, 2-Ch oroethy v ny ether, Acro e n, Carbon tetrach or de, D ch orod f uoromethane, Tr ch orof uoromethane 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 2,2-D ch oropropane, 2-Ch oroethy v ny ether, Acro e n, Carbon tetrach or de, D ch orod f uoromethane are outs de contro m ts Probab e cause due to matr x nte ference
- MC 7 44-3 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

Matrix: SO **Batch ID:** MSG4899

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7 44-2MS, MC 7 44-2MSD 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
- Samp e(s) MC 7 44- , MC 7 44-2, MC 7 44- have compounds reported w th "D" qua f ers nd cat ng resu ts from the d uted ana ys s
- B ank Sp ke Recove y(s) for D ch orod f uoromethane are outs de contro m ts
- Matr x Sp ke Recovery(s) for 2-Butanone (MEK), Acetone, Acro e n, D ch orod f uoromethane 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, D ch orod f uoromethane are outs de contro m ts Probab e cause due to matr x nte ference
- 2-Butanone (MEK): 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
- D ch orod f uoromethane: 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
- V ny Acetate: 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
- 2-Ch oroethy v ny ether: 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
- 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
- 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

Volatiles by GC By Method SW846 8011

Matrix: AQ	**Batch ID:** OP3 568

- A samp es were extracted w th n the recommended method ho d ng t me
- A samp es were ana yzed w th n the recommended method ho d ng t me
- A method b anks for th s batch meet method spec f c cr ter a
- Samp e(s) MC 7000- 5MS, MC 7000- 5MSD were used as the QC samp es nd cated

Matrix: SO	**Batch ID:** OP3 554

- A samp es were extracted w th n the recommended method ho d ng t me
- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7 44- MS, MC 7 44- 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

Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO	**Batch ID:** GN4 386

- Samp e(s) MC 7 44- DUP were used as the QC samp es for So ds, Percent

SGS Accutest New Eng and ce t f es that a ana ys s were performed w th n method spec f cat on It s further recommended that th s report to be used n ts ent rety The Laborato y D rector for SGS Accutest New Eng and or ass gnee as ver f ed by the s gnature on the cover page has author zed the re ease of th s report(MC 7 44)

Summary of Hits

Job Number: MC17144
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 12/21/12

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC17144-1	**GP-15-74**					
Benzene		3.97	0.057	0.034	mg/kg	SW846 8260B
n-Butylbenzene		0.0387 J	0.57	0.021	mg/kg	SW846 8260B
Ethylbenzene		0.151 J	0.23	0.027	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.232 J	0.57	0.025	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.0828 J	0.57	0.024	mg/kg	SW846 8260B
m,p-Xylene		0.403	0.23	0.090	mg/kg	SW846 8260B
o-Xylene		0.0966 J	0.23	0.027	mg/kg	SW846 8260B
Xylene (total)		0.500	0.23	0.027	mg/kg	SW846 8260B
MC17144-2	**GP-15-89**					
Benzene		0.483	0.052	0.031	mg/kg	SW846 8260B
MC17144-3	**TRIP BLANK**					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	GP-15-74		
Lab Sample ID:	MC17144-1	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	89.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123288.D	1	12/28/12	JM	n/a	n/a	MSG4899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.22 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.57	0.14	mg/kg	
107-02-8	Acrolein [b]	ND	2.8	1.1	mg/kg	
107-13-1	Acrylonitrile	ND	2.8	0.14	mg/kg	
71-43-2	Benzene	3.97	0.057	0.034	mg/kg	
108-86-1	Bromobenzene	ND	0.57	0.025	mg/kg	
74-97-5	Bromochloromethane	ND	0.57	0.043	mg/kg	
75-27-4	Bromodichloromethane	ND	0.23	0.024	mg/kg	
75-25-2	Bromoform	ND	0.23	0.23	mg/kg	
74-83-9	Bromomethane	ND	0.23	0.059	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	0.57	0.14	mg/kg	
104-51-8	n-Butylbenzene	0.0387	0.57	0.021	mg/kg	J
135-98-8	sec-Butylbenzene	ND	0.57	0.026	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.57	0.10	mg/kg	
75-15-0	Carbon disulfide	ND	0.57	0.019	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.23	0.083	mg/kg	
108-90-7	Chlorobenzene	ND	0.23	0.031	mg/kg	
75-00-3	Chloroethane	ND	0.57	0.14	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.57	0.23	mg/kg	
67-66-3	Chloroform	ND	0.23	0.059	mg/kg	
74-87-3	Chloromethane	ND	0.57	0.053	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.57	0.13	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.57	0.026	mg/kg	
124-48-1	Dibromochloromethane	ND	0.23	0.034	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.23	0.025	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.23	0.026	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.23	0.024	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.23	0.13	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.23	0.031	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.23	0.033	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.23	0.042	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.23	0.034	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.23	0.033	mg/kg	

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:	GP-15-74		
Lab Sample ID:	MC17144-1	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	89.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.23	0.042	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.57	0.026	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.57	0.099	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.57	0.030	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.23	0.019	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.23	0.056	mg/kg	
123-91-1	1,4-Dioxane	ND	2.8	2.8	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.57	0.078	mg/kg	
100-41-4	Ethylbenzene	0.151	0.23	0.027	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	0.57	0.053	mg/kg	
591-78-6	2-Hexanone	ND	0.57	0.057	mg/kg	
98-82-8	Isopropylbenzene	ND	0.57	0.026	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.57	0.020	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.23	0.033	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.57	0.057	mg/kg	
74-95-3	Methylene bromide	ND	0.57	0.056	mg/kg	
75-09-2	Methylene chloride	ND	0.23	0.13	mg/kg	
91-20-3	Naphthalene	ND	0.57	0.14	mg/kg	
103-65-1	n-Propylbenzene	ND	0.57	0.12	mg/kg	
100-42-5	Styrene	ND	0.57	0.027	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.57	0.11	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.23	0.048	mg/kg	
127-18-4	Tetrachloroethene	ND	0.23	0.026	mg/kg	
108-88-3	Toluene	ND	0.57	0.097	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.57	0.027	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.57	0.026	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.23	0.036	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.23	0.084	mg/kg	
79-01-6	Trichloroethene	ND	0.23	0.024	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.23	0.035	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.57	0.033	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.232	0.57	0.025	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0828	0.57	0.024	mg/kg	J
108-05-4	Vinyl Acetate [a]	ND	0.57	0.064	mg/kg	
75-01-4	Vinyl chloride	ND	0.23	0.031	mg/kg	
	m,p-Xylene	0.403	0.23	0.090	mg/kg	
95-47-6	o-Xylene	0.0966	0.23	0.027	mg/kg	J
1330-20-7	Xylene (total)	0.500	0.23	0.027	mg/kg	

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:	GP-15-74		
Lab Sample ID:	MC17144-1	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	89.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		70-130%
2037-26-5	Toluene-D8	86%		70-130%
460-00-4	4-Bromofluorobenzene	82%		70-130%

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

(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.

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:	GP-15-74		
Lab Sample ID:	MC17144-1	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8011 SW846 8011	Percent Solids:	89.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20244.D	1	12/27/12	AP	12/26/12	OP31554	GBK729
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	137%		61-167%
460-00-4	Bromofluorobenzene (S)	156%		61-167%

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:	GP-15-89		
Lab Sample ID:	MC17144-2	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	91.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123289.D	1	12/28/12	JM	n/a	n/a	MSG4899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.52 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.52	0.13	mg/kg	
107-02-8	Acrolein [b]	ND	2.6	1.0	mg/kg	
107-13-1	Acrylonitrile	ND	2.6	0.13	mg/kg	
71-43-2	Benzene	0.483	0.052	0.031	mg/kg	
108-86-1	Bromobenzene	ND	0.52	0.023	mg/kg	
74-97-5	Bromochloromethane	ND	0.52	0.039	mg/kg	
75-27-4	Bromodichloromethane	ND	0.21	0.022	mg/kg	
75-25-2	Bromoform	ND	0.21	0.21	mg/kg	
74-83-9	Bromomethane	ND	0.21	0.054	mg/kg	
78-93-3	2-Butanone (MEK) [a]	ND	0.52	0.13	mg/kg	
104-51-8	n-Butylbenzene	ND	0.52	0.019	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.52	0.024	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.52	0.092	mg/kg	
75-15-0	Carbon disulfide	ND	0.52	0.017	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.21	0.076	mg/kg	
108-90-7	Chlorobenzene	ND	0.21	0.029	mg/kg	
75-00-3	Chloroethane	ND	0.52	0.13	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.52	0.21	mg/kg	
67-66-3	Chloroform	ND	0.21	0.054	mg/kg	
74-87-3	Chloromethane	ND	0.52	0.048	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.52	0.12	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.52	0.024	mg/kg	
124-48-1	Dibromochloromethane	ND	0.21	0.031	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.21	0.023	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.21	0.024	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.21	0.022	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.21	0.12	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.21	0.028	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.21	0.030	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.21	0.038	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.21	0.031	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.21	0.030	mg/kg	

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:	GP-15-89		
Lab Sample ID:	MC17144-2	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	91.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.21	0.039	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.52	0.024	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.52	0.090	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.52	0.027	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.21	0.018	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.21	0.052	mg/kg	
123-91-1	1,4-Dioxane	ND	2.6	2.6	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.52	0.071	mg/kg	
100-41-4	Ethylbenzene	ND	0.21	0.025	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.52	0.048	mg/kg	
591-78-6	2-Hexanone	ND	0.52	0.052	mg/kg	
98-82-8	Isopropylbenzene	ND	0.52	0.024	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.52	0.019	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.21	0.030	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.52	0.052	mg/kg	
74-95-3	Methylene bromide	ND	0.52	0.051	mg/kg	
75-09-2	Methylene chloride	ND	0.21	0.12	mg/kg	
91-20-3	Naphthalene	ND	0.52	0.13	mg/kg	
103-65-1	n-Propylbenzene	ND	0.52	0.11	mg/kg	
100-42-5	Styrene	ND	0.52	0.024	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.52	0.10	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.21	0.044	mg/kg	
127-18-4	Tetrachloroethene	ND	0.21	0.024	mg/kg	
108-88-3	Toluene	ND	0.52	0.089	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.52	0.025	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.52	0.024	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.21	0.033	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.21	0.077	mg/kg	
79-01-6	Trichloroethene	ND	0.21	0.022	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.21	0.032	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.52	0.030	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.52	0.023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.52	0.022	mg/kg	
108-05-4	Vinyl Acetate [a]	ND	0.52	0.058	mg/kg	
75-01-4	Vinyl chloride	ND	0.21	0.028	mg/kg	
	m,p-Xylene	ND	0.21	0.082	mg/kg	
95-47-6	o-Xylene	ND	0.21	0.025	mg/kg	
1330-20-7	Xylene (total)	ND	0.21	0.025	mg/kg	

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:	GP-15-89		
Lab Sample ID:	MC17144-2	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	91.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	79%		70-130%

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

(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.

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:	GP-15-89		
Lab Sample ID:	MC17144-2	Date Sampled:	12/21/12
Matrix:	SO - Soil	Date Received:	12/24/12
Method:	SW846 8011 SW846 8011	Percent Solids:	91.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20245.D	1	12/27/12	AP	12/26/12	OP31554	GBK729
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0027	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0027	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	146%		61-167%
460-00-4	Bromofluorobenzene (S)	160%		61-167%

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:	TRIP BLANK		
Lab Sample ID:	MC17144-3	Date Sampled:	12/21/12
Matrix:	AQ - Trip Blank Water	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H59607.D	1	12/28/12	JP	n/a	n/a	MSH1970
Run #2							

	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 [a]	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	1.3	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	0.61	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	1.3	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:	TRIP BLANK		
Lab Sample ID:	MC17144-3	Date Sampled:	12/21/12
Matrix:	AQ - Trip Blank Water	Date Received:	12/24/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, 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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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 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:	TRIP BLANK		
Lab Sample ID:	MC17144-3	**Date Sampled:**	12/21/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/24/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	98%		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	

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

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:	TRIP BLANK		
Lab Sample ID:	MC17144-3	**Date Sampled:**	12/21/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/24/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77607.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000
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)	92%		36-173%
460-00-4	Bromofluorobenzene (S)	96%		36-173%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #: | Accutest Quote #: | Accutest Job #: MC17144

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel | E-mail:
Phone #: | Fax #:
Sampler(s) Name(s): Wendy Pennington, Brian Smith | Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City:
Project#: 21562850.15000
Client PO#:
Project Manager: D. Palmer
Attention: | PO#:

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-1	GP-15-74		12/21/12	0950	WP/BS	SO	4					X		X		X	X	X	
-2	GP-15-89		↓	1055	↓	↓	↓					X		X		X	X	X	
-3	Trip Blank		↓		↓	↓	↓										X	X	
																			12C, 5F3
																			10B2,

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ Std. 5 Business Days (By Contract only)
- ☐ 5 Day *RUSH*
- ☒ 3 Day *EMERGENCY* Due 12/28
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

RUSH!

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☒ FULLT1 (Level 3+4)
- ☐ CT RCP
- ☐ MA MCP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☒ EDD Format
- ☐ Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	12/21/12 1300	1 Fed Ex	2 Fedex	12-24-12 9:30	2 [signature]
3		3	4		4
5		5			

Relinquished by Sampler: 3 | Date Time: | Received By: 3 | Relinquished By: 4 | Date Time: | Received By: 4

Relinquished by: 5 | Date Time: | Received By: 5 | Custody Seal # | ☐ Intact ☐ Not Intact | Preserved where applicable ☐ | On Ice ☒ | Cooler Temp. 28

5.1 5

MC17144: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC17144 Client: URS Immediate Client Services Action Required: No

Date / Time Received: 12/24/2012 Delivery Method: Client Service Action Required at Login: No

Project: ROXANA DRILLING 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:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservatio	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

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC17144: Chain of Custody
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Internal Sample Tracking Chronicle

Shell Oil

Job No: MC17144

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562735.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC17144-1 Collected: 21-DEC-12 09:05 By: WPBS Received: 24-DEC-12 By: GP-15-74						
MC17144-1	SM21 2540 B MOD.	26-DEC-12	MA			%SOL
MC17144-1	SW846 8011	27-DEC-12 11:46	AP	26-DEC-12	CA	V8011SL
MC17144-1	SW846 8260B	28-DEC-12 12:30	JM			V8260SL+
MC17144-2 Collected: 21-DEC-12 10:55 By: WPBS Received: 24-DEC-12 By: GP-15-89						
MC17144-2	SM21 2540 B MOD.	26-DEC-12	MA			%SOL
MC17144-2	SW846 8011	27-DEC-12 12:10	AP	26-DEC-12	CA	V8011SL
MC17144-2	SW846 8260B	28-DEC-12 12:59	JM			V8260SL+
MC17144-3 Collected: 21-DEC-12 00:00 By: WPBS Received: 24-DEC-12 By: TRIP BLANK						
MC17144-3	SW846 8011	28-DEC-12 12:31	CZ	27-DEC-12	FC	V8011SL
MC17144-3	SW846 8260B	28-DEC-12 13:51	JP			V8260SL+

SGS Accutest Internal Chain of Custody

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 12/24/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17144-1.1	Walk In Ref #9	Mehdi Abdolrahim	12/26/12 08:00	Retrieve from Storage
MC17144-1.1	Mehdi Abdolrahim	Walk In Ref #9	12/26/12 08:45	Return to Storage
MC17144-1.1	Walk In Ref #9	Corey Aldoupolis	12/26/12 17:46	Retrieve from Storage
MC17144-1.1	Corey Aldoupolis	Walk In Ref #9	12/26/12 20:29	Return to Storage
MC17144-1.1	Scott Parsick		02/13/13 11:52	Disposed
MC17144-1.4	VOC Ref #10	Gary Krasinski	12/26/12 11:51	Retrieve from Storage
MC17144-1.4	Gary Krasinski	VOC Ref #10	12/28/12 12:41	Return to Storage
MC17144-1.4	VOC Ref #10	Jaime Maslowski	12/28/12 12:44	Retrieve from Storage
MC17144-1.4	Jaime Maslowski	VOC Ref #10	01/02/13 10:04	Return to Storage
MC17144-1.4	Scott Parsick		02/13/13 11:52	Disposed
MC17144-2.1	Walk In Ref #9	Mehdi Abdolrahim	12/26/12 08:00	Retrieve from Storage
MC17144-2.1	Mehdi Abdolrahim	Walk In Ref #9	12/26/12 08:45	Return to Storage
MC17144-2.1	Walk In Ref #9	Corey Aldoupolis	12/26/12 17:46	Retrieve from Storage
MC17144-2.1	Corey Aldoupolis	Walk In Ref #9	12/26/12 20:29	Return to Storage
MC17144-2.1	Scott Parsick		02/13/13 11:52	Disposed
MC17144-2.4	VOC Ref #10	Gary Krasinski	12/26/12 11:51	Retrieve from Storage
MC17144-2.4	Gary Krasinski	VOC Ref #10	12/28/12 12:41	Return to Storage
MC17144-2.4	VOC Ref #10	Jaime Maslowski	12/28/12 12:44	Retrieve from Storage
MC17144-2.4	Jaime Maslowski	VOC Ref #10	01/02/13 10:04	Return to Storage
MC17144-2.4	Scott Parsick		02/13/13 11:52	Disposed
MC17144-3.4	VOC Ref #5	Nick Krasinski	12/27/12 19:32	Retrieve from Storage
MC17144-3.4	Nick Krasinski		01/03/13 21:35	Depleted

GC/MS Volatiles

QC Data Summaries

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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-MB	G123287.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	63	ug/kg	
107-02-8	Acrolein	ND	1300	500	ug/kg	
107-13-1	Acrylonitrile	ND	1300	63	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	
108-86-1	Bromobenzene	ND	250	11	ug/kg	
74-97-5	Bromochloromethane	ND	250	19	ug/kg	
75-27-4	Bromodichloromethane	ND	100	11	ug/kg	
75-25-2	Bromoform	ND	100	100	ug/kg	
74-83-9	Bromomethane	ND	100	26	ug/kg	
78-93-3	2-Butanone (MEK)	ND	250	63	ug/kg	
104-51-8	n-Butylbenzene	ND	250	9.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	11	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	44	ug/kg	
75-15-0	Carbon disulfide	ND	250	8.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	36	ug/kg	
108-90-7	Chlorobenzene	ND	100	14	ug/kg	
75-00-3	Chloroethane	ND	250	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	100	26	ug/kg	
74-87-3	Chloromethane	ND	250	23	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	55	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	11	ug/kg	
124-48-1	Dibromochloromethane	ND	100	15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	11	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	11	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	19	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	12	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	13	ug/kg	

Method Blank Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-MB	G123287.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	8.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	25	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	1300	ug/kg	
97-63-2	Ethyl methacrylate	ND	250	34	ug/kg	
100-41-4	Ethylbenzene	ND	100	12	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	23	ug/kg	
591-78-6	2-Hexanone	ND	250	25	ug/kg	
98-82-8	Isopropylbenzene	ND	250	11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	25	ug/kg	
74-95-3	Methylene bromide	ND	250	25	ug/kg	
75-09-2	Methylene chloride	ND	100	58	ug/kg	
91-20-3	Naphthalene	ND	250	63	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
100-42-5	Styrene	ND	250	12	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	21	ug/kg	
127-18-4	Tetrachloroethene	ND	100	11	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	250	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	37	ug/kg	
79-01-6	Trichloroethene	ND	100	11	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	15	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	
108-05-4	Vinyl Acetate	ND	250	28	ug/kg	
75-01-4	Vinyl chloride	ND	100	14	ug/kg	
	m,p-Xylene	ND	100	39	ug/kg	
95-47-6	o-Xylene	ND	100	12	ug/kg	
1330-20-7	Xylene (total)	ND	100	12	ug/kg	

Method Blank Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-MB	G123287.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	85%	70-130%

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

Method Blank Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-MB	H59606.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-3

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	1.3	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	0.61	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	1.3	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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-MB	H59606.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-3

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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-MB	H59606.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	99%	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	

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-BS	G123284.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	2500	3250	130	70-130
107-02-8	Acrolein	12500	10000	80	70-130
107-13-1	Acrylonitrile	2500	2300	92	70-130
71-43-2	Benzene	2500	2510	100	70-130
108-86-1	Bromobenzene	2500	2600	104	70-130
74-97-5	Bromochloromethane	2500	2570	103	70-130
75-27-4	Bromodichloromethane	2500	2600	104	70-130
75-25-2	Bromoform	2500	2280	91	70-130
74-83-9	Bromomethane	2500	2640	106	70-130
78-93-3	2-Butanone (MEK)	2500	2840	114	70-130
104-51-8	n-Butylbenzene	2500	2610	104	70-130
135-98-8	sec-Butylbenzene	2500	2500	100	70-130
98-06-6	tert-Butylbenzene	2500	2150	86	70-130
75-15-0	Carbon disulfide	2500	2660	106	70-130
56-23-5	Carbon tetrachloride	2500	2670	107	70-130
108-90-7	Chlorobenzene	2500	2580	103	70-130
75-00-3	Chloroethane	2500	2670	107	70-130
110-75-8	2-Chloroethyl vinyl ether	2500	2250	90	10-160
67-66-3	Chloroform	2500	2590	104	70-130
74-87-3	Chloromethane	2500	2970	119	70-130
95-49-8	o-Chlorotoluene	2500	2470	99	70-130
106-43-4	p-Chlorotoluene	2500	2530	101	70-130
124-48-1	Dibromochloromethane	2500	2530	101	70-130
95-50-1	1,2-Dichlorobenzene	2500	2490	100	70-130
541-73-1	1,3-Dichlorobenzene	2500	2550	102	70-130
106-46-7	1,4-Dichlorobenzene	2500	2660	106	70-130
75-71-8	Dichlorodifluoromethane	2500	3300	132* [a]	70-130
75-34-3	1,1-Dichloroethane	2500	2630	105	70-130
107-06-2	1,2-Dichloroethane	2500	2490	100	70-130
75-35-4	1,1-Dichloroethene	2500	2700	108	70-130
156-59-2	cis-1,2-Dichloroethene	2500	2600	104	70-130
156-60-5	trans-1,2-Dichloroethene	2500	2640	106	70-130
78-87-5	1,2-Dichloropropane	2500	2530	101	70-130
142-28-9	1,3-Dichloropropane	2500	2470	99	70-130
594-20-7	2,2-Dichloropropane	2500	3010	120	70-130
563-58-6	1,1-Dichloropropene	2500	2580	103	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-BS	G123284.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	2500	2500	100	70-130
10061-02-6	trans-1,3-Dichloropropene	2500	2590	104	70-130
123-91-1	1,4-Dioxane	12500	11400	91	70-130
97-63-2	Ethyl methacrylate	2500	2320	93	76-141
100-41-4	Ethylbenzene	2500	2640	106	70-130
87-68-3	Hexachlorobutadiene	2500	2650	106	70-130
591-78-6	2-Hexanone	2500	2640	106	70-130
98-82-8	Isopropylbenzene	2500	2490	100	70-130
99-87-6	p-Isopropyltoluene	2500	2730	109	70-130
1634-04-4	Methyl Tert Butyl Ether	2500	2440	98	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2200	88	70-130
74-95-3	Methylene bromide	2500	2450	98	70-130
75-09-2	Methylene chloride	2500	2650	106	70-130
91-20-3	Naphthalene	2500	2320	93	70-130
103-65-1	n-Propylbenzene	2500	2490	100	70-130
100-42-5	Styrene	2500	2490	100	70-130
630-20-6	1,1,1,2-Tetrachloroethane	2500	2550	102	70-130
79-34-5	1,1,2,2-Tetrachloroethane	2500	2450	98	70-130
127-18-4	Tetrachloroethene	2500	2690	108	70-130
108-88-3	Toluene	2500	2580	103	70-130
87-61-6	1,2,3-Trichlorobenzene	2500	2450	98	70-130
120-82-1	1,2,4-Trichlorobenzene	2500	2550	102	70-130
71-55-6	1,1,1-Trichloroethane	2500	2740	110	70-130
79-00-5	1,1,2-Trichloroethane	2500	2450	98	70-130
79-01-6	Trichloroethene	2500	2590	104	70-130
75-69-4	Trichlorofluoromethane	2500	2700	108	70-130
96-18-4	1,2,3-Trichloropropane	2500	2390	96	70-130
95-63-6	1,2,4-Trimethylbenzene	2500	2540	102	70-130
108-67-8	1,3,5-Trimethylbenzene	2500	2540	102	70-130
108-05-4	Vinyl Acetate	2500	2730	109	70-130
75-01-4	Vinyl chloride	2500	2280	91	70-130
	m,p-Xylene	5000	5210	104	70-130
95-47-6	o-Xylene	2500	2570	103	70-130
1330-20-7	Xylene (total)	7500	7770	104	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4899-BS	G123284.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	70-130%
2037-26-5	Toluene-D8	92%	70-130%
460-00-4	4-Bromofluorobenzene	85%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-BS	H59605.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: Method: SW846 8260B

MC17144-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	70.8	142* [a]	70-130
107-02-8	Acrolein	250	202	81	70-130
107-13-1	Acrylonitrile	50	39.1	78	70-130
71-43-2	Benzene	50	45.7	91	70-130
108-86-1	Bromobenzene	50	48.7	97	70-130
74-97-5	Bromochloromethane	50	49.1	98	70-130
75-27-4	Bromodichloromethane	50	58.2	116	70-130
75-25-2	Bromoform	50	59.9	120	70-130
74-83-9	Bromomethane	50	48.0	96	70-130
78-93-3	2-Butanone (MEK)	50	57.2	114	70-130
104-51-8	n-Butylbenzene	50	51.2	102	70-130
135-98-8	sec-Butylbenzene	50	52.9	106	70-130
98-06-6	tert-Butylbenzene	50	56.5	113	70-130
75-15-0	Carbon disulfide	50	50.1	100	70-130
56-23-5	Carbon tetrachloride	50	69.1	138* [a]	70-130
108-90-7	Chlorobenzene	50	48.8	98	70-130
75-00-3	Chloroethane	50	46.7	93	70-130
110-75-8	2-Chloroethyl vinyl ether	50	62.6	125	70-130
67-66-3	Chloroform	50	53.8	108	70-130
74-87-3	Chloromethane	50	57.3	115	70-130
95-49-8	o-Chlorotoluene	50	52.0	104	70-130
106-43-4	p-Chlorotoluene	50	54.9	110	70-130
124-48-1	Dibromochloromethane	50	51.8	104	70-130
95-50-1	1,2-Dichlorobenzene	50	52.1	104	70-130
541-73-1	1,3-Dichlorobenzene	50	52.2	104	70-130
106-46-7	1,4-Dichlorobenzene	50	47.8	96	70-130
75-71-8	Dichlorodifluoromethane	50	65.5	131* [a]	70-130
75-34-3	1,1-Dichloroethane	50	49.6	99	70-130
107-06-2	1,2-Dichloroethane	50	57.9	116	70-130
75-35-4	1,1-Dichloroethene	50	51.6	103	70-130
156-59-2	cis-1,2-Dichloroethene	50	47.0	94	70-130
156-60-5	trans-1,2-Dichloroethene	50	46.5	93	70-130
78-87-5	1,2-Dichloropropane	50	44.0	88	70-130
142-28-9	1,3-Dichloropropane	50	45.4	91	70-130
594-20-7	2,2-Dichloropropane	50	70.1	140* [a]	70-130
563-58-6	1,1-Dichloropropene	50	51.8	104	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-BS	H59605.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: Method: SW846 8260B

MC17144-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	48.1	96	70-130
10061-02-6	trans-1,3-Dichloropropene	50	54.6	109	70-130
123-91-1	1,4-Dioxane	250	218	87	70-130
97-63-2	Ethyl methacrylate	50	49.0	98	77-137
100-41-4	Ethylbenzene	50	47.9	96	70-130
87-68-3	Hexachlorobutadiene	50	51.8	104	70-130
591-78-6	2-Hexanone	50	55.8	112	70-130
98-82-8	Isopropylbenzene	50	53.3	107	70-130
99-87-6	p-Isopropyltoluene	50	51.1	102	70-130
1634-04-4	Methyl Tert Butyl Ether	50	51.0	102	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	43.8	88	70-130
74-95-3	Methylene bromide	50	48.6	97	70-130
75-09-2	Methylene chloride	50	48.0	96	70-130
91-20-3	Naphthalene	50	40.0	80	70-130
103-65-1	n-Propylbenzene	50	52.7	105	70-130
100-42-5	Styrene	50	49.3	99	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	61.1	122	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.5	95	70-130
127-18-4	Tetrachloroethene	50	46.8	94	70-130
108-88-3	Toluene	50	46.4	93	70-130
87-61-6	1,2,3-Trichlorobenzene	50	43.1	86	70-130
120-82-1	1,2,4-Trichlorobenzene	50	45.2	90	70-130
71-55-6	1,1,1-Trichloroethane	50	61.0	122	70-130
79-00-5	1,1,2-Trichloroethane	50	46.3	93	70-130
79-01-6	Trichloroethene	50	48.9	98	70-130
75-69-4	Trichlorofluoromethane	50	59.5	119	70-130
96-18-4	1,2,3-Trichloropropane	50	52.2	104	70-130
95-63-6	1,2,4-Trimethylbenzene	50	49.3	99	70-130
108-67-8	1,3,5-Trimethylbenzene	50	48.9	98	70-130
108-05-4	Vinyl Acetate	50	47.8	96	70-130
75-01-4	Vinyl chloride	50	51.1	102	70-130
	m,p-Xylene	100	97.3	97	70-130
95-47-6	o-Xylene	50	50.3	101	70-130
1330-20-7	Xylene (total)	150	148	99	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1970-BS	H59605.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17144-2MS	G123290.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2MSD	G123291.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2	G123289.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	MC17144-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		5220	7940	152* [a]	5220	7800	150* [a]	2	70-130/30
107-02-8	Acrolein	ND		26100	17500	67* [a]	26100	18000	69* [a]	3	70-130/30
107-13-1	Acrylonitrile	ND		5220	4430	85	5220	4440	85	0	70-130/30
71-43-2	Benzene	483		5220	5260	92	5220	5290	92	1	70-130/30
108-86-1	Bromobenzene	ND		5220	5010	96	5220	5010	96	0	70-130/30
74-97-5	Bromochloromethane	ND		5220	4940	95	5220	4870	93	1	70-130/30
75-27-4	Bromodichloromethane	ND		5220	4990	96	5220	5020	96	1	70-130/30
75-25-2	Bromoform	ND		5220	4350	83	5220	4270	82	2	70-130/30
74-83-9	Bromomethane	ND		5220	4960	95	5220	5010	96	1	70-130/30
78-93-3	2-Butanone (MEK)	ND		5220	6850	131* [a]	5220	6340	122	8	70-130/30
104-51-8	n-Butylbenzene	ND		5220	4970	95	5220	5030	96	1	70-130/30
135-98-8	sec-Butylbenzene	ND		5220	4780	92	5220	4830	93	1	70-130/30
98-06-6	tert-Butylbenzene	ND		5220	3940	76	5220	4100	79	4	70-130/30
75-15-0	Carbon disulfide	ND		5220	5010	96	5220	4990	96	0	70-130/30
56-23-5	Carbon tetrachloride	ND		5220	5080	97	5220	5150	99	1	70-130/30
108-90-7	Chlorobenzene	ND		5220	4850	93	5220	4780	92	1	70-130/30
75-00-3	Chloroethane	ND		5220	4900	94	5220	4950	95	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		5220	4290	82	5220	4230	81	1	10-160/30
67-66-3	Chloroform	ND		5220	4950	95	5220	4970	95	0	70-130/30
74-87-3	Chloromethane	ND		5220	5730	110	5220	5750	110	0	70-130/30
95-49-8	o-Chlorotoluene	ND		5220	4620	89	5220	4730	91	2	70-130/30
106-43-4	p-Chlorotoluene	ND		5220	4930	95	5220	4860	93	1	70-130/30
124-48-1	Dibromochloromethane	ND		5220	4880	94	5220	4810	92	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		5220	4800	92	5220	4800	92	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		5220	4840	93	5220	4900	94	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		5220	5080	97	5220	5140	99	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		5220	7270	139* [a]	5220	7160	137* [a]	2	70-130/30
75-34-3	1,1-Dichloroethane	ND		5220	4990	96	5220	5010	96	0	70-130/30
107-06-2	1,2-Dichloroethane	ND		5220	4900	94	5220	4900	94	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		5220	5140	99	5220	5150	99	0	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		5220	4960	95	5220	4940	95	0	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		5220	5000	96	5220	5010	96	0	70-130/30
78-87-5	1,2-Dichloropropane	ND		5220	4910	94	5220	4930	95	0	70-130/30
142-28-9	1,3-Dichloropropane	ND		5220	4770	91	5220	4650	89	3	70-130/30
594-20-7	2,2-Dichloropropane	ND		5220	5500	105	5220	5650	108	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		5220	4900	94	5220	4960	95	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17144-2MS	G123290.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2MSD	G123291.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2	G123289.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Compound	MC17144-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		5220	4830	93	5220	4800	92	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		5220	5000	96	5220	5020	96	0	70-130/30
123-91-1	1,4-Dioxane	ND		26100	22700	87	26100	23100	89	2	70-130/30
97-63-2	Ethyl methacrylate	ND		5220	4530	87	5220	4540	87	0	41-160/30
100-41-4	Ethylbenzene	ND		5220	4980	95	5220	4910	94	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		5220	5050	97	5220	5180	99	3	70-130/30
591-78-6	2-Hexanone	ND		5220	5840	112	5220	5420	104	7	70-130/30
98-82-8	Isopropylbenzene	ND		5220	4760	91	5220	4780	92	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		5220	5160	99	5220	5240	100	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		5220	4790	92	5220	4790	92	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5220	4360	84	5220	4280	82	2	70-130/30
74-95-3	Methylene bromide	ND		5220	4760	91	5220	4810	92	1	70-130/30
75-09-2	Methylene chloride	ND		5220	5050	97	5220	5120	98	1	70-130/30
91-20-3	Naphthalene	ND		5220	4550	87	5220	4600	88	1	70-130/30
103-65-1	n-Propylbenzene	ND		5220	4750	91	5220	4760	91	0	70-130/30
100-42-5	Styrene	ND		5220	4760	91	5220	4750	91	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		5220	4890	94	5220	4790	92	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		5220	4820	92	5220	4770	91	1	70-130/30
127-18-4	Tetrachloroethene	ND		5220	5070	97	5220	4990	96	2	70-130/30
108-88-3	Toluene	ND		5220	4950	95	5220	4960	95	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		5220	4610	88	5220	4780	92	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		5220	4840	93	5220	4950	95	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		5220	5070	97	5220	5160	99	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		5220	4820	92	5220	4860	93	1	70-130/30
79-01-6	Trichloroethene	ND		5220	4900	94	5220	4900	94	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		5220	5190	100	5220	5290	101	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		5220	4730	91	5220	4700	90	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		5220	4890	94	5220	4900	94	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		5220	4840	93	5220	4870	93	1	70-130/30
108-05-4	Vinyl Acetate	ND		5220	5340	102	5220	5250	101	2	70-130/30
75-01-4	Vinyl chloride	ND		5220	5460	105	5220	5360	103	2	70-130/30
	m,p-Xylene	ND		10400	9770	94	10400	9650	93	1	70-130/30
95-47-6	o-Xylene	ND		5220	4840	93	5220	4780	92	1	70-130/30
1330-20-7	Xylene (total)	ND		15600	14600	93	15600	14400	92	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17144-2MS	G123290.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2MSD	G123291.D	1	12/28/12	JM	n/a	n/a	MSG4899
MC17144-2	G123289.D	1	12/28/12	JM	n/a	n/a	MSG4899

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-1, MC17144-2

CAS No.	Surrogate Recoveries	MS	MSD	MC17144-2	Limits
1868-53-7	Dibromofluoromethane	94%	94%	85%	70-130%
2037-26-5	Toluene-D8	91%	92%	84%	70-130%
460-00-4	4-Bromofluorobenzene	87%	87%	79%	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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17020-1MS	H59620.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1MSD	H59621.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1	H59619.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: Method: SW846 8260B

MC17144-3

CAS No.	Compound	MC17020-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	201	80	250	201	80	0	70-130/30
107-02-8	Acrolein	ND		1250	815	65* a	1250	817	65* a	0	70-130/30
107-13-1	Acrylonitrile	ND		250	185	74	250	186	74	1	70-130/30
71-43-2	Benzene	18.0		250	253	94	250	248	92	2	70-130/30
108-86-1	Bromobenzene	ND		250	252	101	250	252	101	0	70-130/30
74-97-5	Bromochloromethane	ND		250	255	102	250	252	101	1	70-130/30
75-27-4	Bromodichloromethane	ND		250	309	124	250	302	121	2	70-130/30
75-25-2	Bromoform	ND		250	289	116	250	282	113	2	70-130/30
74-83-9	Bromomethane	ND		250	254	102	250	240	96	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	218	87	250	213	85	2	70-130/30
104-51-8	n-Butylbenzene	ND		250	255	102	250	247	99	3	70-130/30
135-98-8	sec-Butylbenzene	ND		250	262	105	250	258	103	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	286	114	250	278	111	3	70-130/30
75-15-0	Carbon disulfide	ND		250	232	93	250	219	88	6	70-130/30
56-23-5	Carbon tetrachloride	ND		250	370	148* a	250	353	141* a	5	70-130/30
108-90-7	Chlorobenzene	ND		250	254	102	250	245	98	4	70-130/30
75-00-3	Chloroethane	ND		250	236	94	250	224	90	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	77.6	31* a	250	75.2	30* a	3	70-130/30
67-66-3	Chloroform	ND		250	291	116	250	283	113	3	70-130/30
74-87-3	Chloromethane	ND		250	302	121	250	294	118	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	270	108	250	263	105	3	70-130/30
106-43-4	p-Chlorotoluene	ND		250	282	113	250	276	110	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	259	104	250	256	102	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	263	105	250	256	102	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	267	107	250	262	105	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	243	97	250	238	95	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	367	147* a	250	352	141* a	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	260	104	250	255	102	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	313	125	250	305	122	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	264	106	250	251	100	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	241	96	250	241	96	0	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	246	98	250	241	96	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	225	90	250	222	89	1	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	364	146* a	250	345	138* a	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	272	109	250	263	105	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17020-1MS	H59620.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1MSD	H59621.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1	H59619.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: Method: SW846 8260B

MC17144-3

CAS No.	Compound	MC17020-1 ug/l	Q	Spike 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	246	98	250	244	98	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	279	112	250	277	111	1	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1040	83	1250	1080	86	4	70-130/30
97-63-2	Ethyl methacrylate	ND		250	238	95	250	238	95	0	72-139/30
100-41-4	Ethylbenzene	3.5		250	255	101	250	247	97	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	259	104	250	247	99	5	70-130/30
591-78-6	2-Hexanone	ND		250	211	84	250	209	84	1	70-130/30
98-82-8	Isopropylbenzene	ND		250	273	109	250	266	106	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	256	102	250	249	100	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	255	102	250	254	102	0	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	260	104	250	252	101	3	70-130/30
75-09-2	Methylene chloride	ND		250	246	98	250	239	96	3	70-130/30
91-20-3	Naphthalene	ND		250	182	73	250	188	75	3	70-130/30
103-65-1	n-Propylbenzene	1.0		250	271	108	250	263	105	3	70-130/30
100-42-5	Styrene	ND		250	235	94	250	232	93	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	318	127	250	305	122	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	231	92	250	231	92	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	244	98	250	235	94	4	70-130/30
108-88-3	Toluene	ND		250	239	96	250	238	95	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	199	80	250	200	80	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	215	86	250	214	86	0	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	329	132* [a]	250	315	126	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	234	94	250	231	92	1	70-130/30
79-01-6	Trichloroethene	ND		250	263	105	250	254	102	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	328	131* [a]	250	307	123	7	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	254	102	250	255	102	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	252	101	250	246	98	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	1.0		250	250	100	250	243	97	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	225	90	250	230	92	2	70-130/30
75-01-4	Vinyl chloride	ND		250	260	104	250	261	104	0	70-130/30
	m,p-Xylene	2.8		500	500	99	500	489	97	2	70-130/30
95-47-6	o-Xylene	0.69		250	267	107	250	257	103	4	70-130/30
1330-20-7	Xylene (total)	3.5		750	767	102	750	746	99	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17020-1MS	H59620.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1MSD	H59621.D	5	12/28/12	JP	n/a	n/a	MSH1970
MC17020-1	H59619.D	1	12/28/12	JP	n/a	n/a	MSH1970

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17144-3

CAS No.	Surrogate Recoveries	MS	MSD	MC17020-1	Limits
1868-53-7	Dibromofluoromethane	110%	111%	103%	70-130%
2037-26-5	Toluene-D8	98%	98%	95%	70-130%
460-00-4	4-Bromofluorobenzene	104%	104%	106%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4899-CC4894	**Injection Date:**	12/28/12
Lab File ID:	G123284.D	**Injection Time:**	10:35
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	202910	5.13	275283	6.27	134694	9.62	139460	12.25	39087	3.10
Upper Limit [a]	405820	5.63	550566	6.77	269388	10.12	278920	12.75	78174	3.60
Lower Limit [b]	101455	4.63	137642	5.77	67347	9.12	69730	11.75	19544	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4899-BS	202910	5.13	275283	6.27	134694	9.62	139460	12.25	39087	3.10
MSG4899-MB	205785	5.13	279234	6.27	138418	9.62	137838	12.25	40781	3.10
MC17144-1	208396	5.13	282436	6.27	140111	9.62	139426	12.25	40450	3.10
MC17144-2	208500	5.13	282755	6.27	137045	9.62	137918	12.25	40126	3.10
MC17144-2MS	214030	5.13	288961	6.27	142363	9.62	146838	12.25	41315	3.10
MC17144-2MSD	213352	5.13	287774	6.27	144483	9.62	146255	12.25	41712	3.10
ZZZZZZ	216841	5.13	296487	6.27	150394	9.62	149987	12.25	46092	3.09
ZZZZZZ	214643	5.13	291395	6.27	141697	9.62	146676	12.25	41452	3.10
ZZZZZZ	215281	5.13	292814	6.27	185534	9.53	57315[c]	12.14	45679	3.10
ZZZZZZ	217632	5.13	291945	6.27	145172	9.62	149716	12.25	49336	3.10
ZZZZZZ	214166	5.13	292428	6.27	141531	9.62	146595	12.25	43434	3.10
ZZZZZZ	211569	5.13	284178	6.27	138871	9.62	143074	12.25	44349	3.10
ZZZZZZ	200412	5.13	272396	6.27	134732	9.62	134323	12.25	40083	3.10
ZZZZZZ	208699	5.13	282124	6.27	147760	9.63	145413	12.25	45282	3.10
ZZZZZZ	206368	5.13	282616	6.27	136837	9.62	139375	12.25	43369	3.10
ZZZZZZ	207379	5.13	279233	6.27	139831	9.62	139696	12.25	41306	3.10
ZZZZZZ	210592	5.13	284266	6.27	140494	9.62	143104	12.25	44254	3.10
ZZZZZZ	210035	5.13	283203	6.27	138206	9.62	141834	12.25	40394	3.10
ZZZZZZ	210505	5.13	283507	6.27	144587	9.62	144649	12.25	44741	3.10

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 due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSH1970-CC1910	**Injection Date:**	12/28/12
Lab File ID:	H59604.D	**Injection Time:**	12:30
Instrument ID:	GCMSH	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	201191	8.70	289825	9.57	134477	12.83	156794	15.39	40590	6.27
Upper Limit [a]	402382	9.20	579650	10.07	268954	13.33	313588	15.89	81180	6.77
Lower Limit [b]	100596	8.20	144913	9.07	67239	12.33	78397	14.89	20295	5.77

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSH1970-BS	208358	8.70	300827	9.57	140395	12.83	163212	15.40	43640	6.28
MSH1970-MB	190618	8.71	264331	9.57	114103	12.83	127125	15.40	38139	6.29
MC17144-3	184080	8.71	254128	9.57	109782	12.83	123605	15.40	34085	6.28
ZZZZZZ	174769	8.71	240548	9.57	105476	12.83	118945	15.40	35570	6.29
ZZZZZZ	177716	8.71	274169	9.57	108334	12.83	120099	15.40	36612	6.29
ZZZZZZ	183243	8.71	285070	9.57	111564	12.83	126162	15.40	36473	6.29
ZZZZZZ	180210	8.71	263822	9.58	107520	12.83	119958	15.40	35297	6.29
ZZZZZZ	176897	8.70	255930	9.57	107955	12.83	122744	15.40	37088	6.29
ZZZZZZ	164833	8.70	242455	9.57	100139	12.83	115196	15.40	33658	6.27
ZZZZZZ	164677	8.71	227929	9.58	100240	12.83	114729	15.40	30642	6.28
ZZZZZZ	174717	8.71	239452	9.57	105967	12.83	119876	15.40	34990	6.28
ZZZZZZ	171660	8.71	234883	9.57	104067	12.83	118853	15.40	32717	6.28
ZZZZZZ	157724	8.70	215058	9.57	95347	12.83	110249	15.40	29323	6.28
MC17020-1	166370	8.71	235317	9.57	101714	12.83	115771	15.40	32654	6.29
MC17020-1MS	183231	8.70	263497	9.57	124753	12.83	147767	15.40	35414	6.27
MC17020-1MSD	192765	8.70	276475	9.57	130996	12.83	152631	15.39	38242	6.27
ZZZZZZ	167495	8.71	229325	9.57	101220	12.83	115124	15.40	33609	6.27
ZZZZZZ	173432	8.70	253356	9.57	106204	12.83	127430	15.40	36954	6.29
ZZZZZZ	187679	8.70	263710	9.57	109941	12.83	140045	15.40	44272	6.28
ZZZZZZ	183152	8.70	247240	9.57	105741	12.83	126180	15.40	39439	6.30

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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, 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
MC17144-3	H59607.D	102	98	108
MC17020-1MS	H59620.D	110	98	104
MC17020-1MSD	H59621.D	111	98	104
MSH1970-BS	H59605.D	110	98	105
MSH1970-MB	H59606.D	101	99	108

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

Volatile Surrogate Recovery Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC17144-1	G123288.D	88	86	82
MC17144-2	G123289.D	85	84	79
MC17144-2MS	G123290.D	94	91	87
MC17144-2MSD	G123291.D	94	92	87
MSG4899-BS	G123284.D	95	92	85
MSG4899-MB	G123287.D	94	90	85

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

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: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31554-MB	BK20240.D	1	12/27/12	AP	12/26/12	OP31554	GBK729

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

MC17144-1, MC17144-2

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.5	0.96	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	125%	61-167%
460-00-4	Bromofluorobenzene (S)	149%	61-167%

Method Blank Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31568-MB	YZ77605.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000

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

MC17144-3

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)	89%	36-173%

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31554-BS	BK20241.D	1	12/27/12	AP	12/26/12	OP31554	GBK729

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

MC17144-1, MC17144-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	33.1	40.4	122	59-142
106-93-4	1,2-Dibromoethane	33.1	39.9	121	56-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	145%	61-167%
460-00-4	Bromofluorobenzene (S)	160%	61-167%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31568-BS	YZ77606.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000

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

MC17144-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.061	86	60-140
106-93-4	1,2-Dibromoethane	0.071	0.062	87	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	93%	36-173%
460-00-4	Bromofluorobenzene (S)	99%	36-173%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31554-MS	BK20242.D	1	12/27/12	AP	12/26/12	OP31554	GBK729
OP31554-MSD	BK20243.D	1	12/27/12	AP	12/26/12	OP31554	GBK729
MC17144-1	BK20244.D	1	12/27/12	AP	12/26/12	OP31554	GBK729

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

MC17144-1, MC17144-2

CAS No.	Compound	MC17144-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		107	136	127	111	137	123	1	40-156/27
106-93-4	1,2-Dibromoethane	ND		107	134	125	111	142	127	6	48-141/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17144-1	Limits
460-00-4	Bromofluorobenzene (S)	132%	132%	137%	61-167%
460-00-4	Bromofluorobenzene (S)	146%	146%	156%	61-167%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31568-MS	YZ77609.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000
OP31568-MSD	YZ77610.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000
MC17000-15	YZ77608.D	1	12/28/12	CZ	12/27/12	OP31568	GYZ7000

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

MC17144-3

CAS No.	Compound	MC17000-15 ug/l	Q	Spike ug/l	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	0.061	86	0.071	0.062	87	2	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.058	82	0.071	0.058	82	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17000-15	Limits
460-00-4	Bromofluorobenzene (S)	94%	95%	92%	36-173%
460-00-4	Bromofluorobenzene (S)	97%	97%	93%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17144-3	YZ77607.D	92	96
OP31568-BS	YZ77606.D	93	99
OP31568-MB	YZ77605.D	89	89
OP31568-MS	YZ77609.D	94	97
OP31568-MSD	YZ77610.D	95	97

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Volatile Surrogate Recovery Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17144-1	BK20244.D	137	156
MC17144-2	BK20245.D	146	160
OP31554-BS	BK20241.D	145	160
OP31554-MB	BK20240.D	125	149
OP31554-MS	BK20242.D	132	146
OP31554-MSD	BK20243.D	132	146

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	61-167%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBK729-CC720	**Injection Date:**	12/27/12
Lab File ID:	BK20239.D	**Injection Time:**	09:41
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.44	4.77

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31554-MB	BK20240.D	12/27/12	10:08	4.45	4.77
OP31554-BS	BK20241.D	12/27/12	10:33	4.44	4.77
OP31554-MS	BK20242.D	12/27/12	10:57	4.44	4.77
OP31554-MSD	BK20243.D	12/27/12	11:21	4.45	4.78
MC17144-1	BK20244.D	12/27/12	11:46	4.45	4.78
MC17144-2	BK20245.D	12/27/12	12:10	4.45	4.78
GBK729-ECC720	BK20246.D	12/27/12	12:34	4.45	4.77

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GYZ7000-ICC7000	**Injection Date:**	12/28/12
Lab File ID:	YZ77599.D	**Injection Time:**	09:11
Instrument ID:	GCYZ	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.85	3.57

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	YZ77603A.D	12/28/12	10:51	3.85	3.57
OP31568-MB	YZ77605.D	12/28/12	11:41	3.85	3.57
OP31568-BS	YZ77606.D	12/28/12	12:06	3.85	3.57
MC17144-3	YZ77607.D	12/28/12	12:31	3.85	3.57
MC17000-15	YZ77608.D	12/28/12	12:56	3.85	3.57
OP31568-MS	YZ77609.D	12/28/12	13:21	3.85	3.57
OP31568-MSD	YZ77610.D	12/28/12	13:46	3.85	3.57
GYZ7000-ECC7000	YZ77611.D	12/28/12	14:11	3.85	3.57

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: MC17144
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC17144-1 **Analyzed:** 26-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-74

Wet Weight (Total)	35.311	g
Tare Weight	27.653	g
Dry Weight (Total)	34.468	g
Solids, Percent	89	%

Sample: MC17144-2 **Analyzed:** 26-DEC-12 by MA **Method:** SM21 2540 B MOD.
ClientID: GP-15-89

Wet Weight (Total)	30.813	g
Tare Weight	20.501	g
Dry Weight (Total)	29.896	g
Solids, Percent	91.1	%

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e-Hardcopy 2.0
Automated Report

Technical Report for

Shell Oil

URSMOSTL: Roxana Drilling, Roxana, IL

21562850.15000

SGS Accutest Job Number: MC17324

Sampling Date: 01/03/13

Report to:

AECOM, INC.

Melissa.mansker@aecom.com

ATTN: Melissa Mansker

Total number of pages in report: 99

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.

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SGS ACCUTEST

October 20, 2016

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

RE: SGS Accutest Job # MC17324

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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SGS Accutest LabLink@169770 13:52 04-Nov-2016

Sample Summary

Shell Oil

Job No: MC17324

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC17324-1	01/03/13	10:35 WPJS	01/05/13	SO	Soil	GP-16-23
MC17324-1D	01/03/13	10:35 WPJS	01/05/13	SO	Soil Dup/MSD	GP-16-23
MC17324-1S	01/03/13	10:35 WPJS	01/05/13	SO	Soil Matrix Spike	GP-16-23
MC17324-2	01/03/13	12:55 WPJS	01/05/13	SO	Soil	GP-16-42
MC17324-3	01/03/13	14:30 WPJS	01/05/13	SO	Soil	GP-16-51
MC17324-4	01/03/13	15:30 WPJS	01/05/13	SO	Soil	GP-16-57
MC17324-5	01/03/13	15:30 WPJS	01/05/13	SO	Soil	GP-16-57-DUP
MC17324-6	01/03/13	16:05 WPJS	01/05/13	SO	Soil	GP-16-77
MC17324-7	01/03/13	00:00 WPJS	01/05/13	AQ	Trip Blank Water	TRIP BLANK

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: She O **Job No** MC 7324

Site: URSMOSTL: Roxana Dr ng, Roxana, IL **Report Date** 0/24/20 6 2:43:2 P

6 Samp e(s), Tr p B ank(s) and 0 F e d B ank(s) were co ected on 0 /03/20 3 and were rece ved at SGS Accutest New Eng and on 0 /05/20 3 proper y preserved, at Deg C and ntact These Samp es rece ved a job number of MC 7324 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 was 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:** MSV6 2

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 737 -4MS, MC 737 -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 Recove y(s) for 2,2-D ch oropropane, 2-Ch oroethy v ny ether, Acetone, D ch orod f uoromethane are outs de contro m ts
- Matr x Sp ke Recovery(s) for 2,2-D ch oropropane, 2-Ch oroethy v ny ether, D ch orod f uoromethane are outs de contro m ts Outs de contro m ts due to poss b e matr x nterference
- Matr x Sp ke Dup cate Recovery(s) for 2,2-D ch oropropane, 2-Ch oroethy v ny ether, D ch orod f uoromethane are outs de contro m ts Probab e cause due to matr x nte ference
- RPD(s) for MSD for ,2,3-Tr ch orobenzene are outs de contro m ts for samp e MC 737 -4MSD H gh RPD due to poss b e matr x nterference and/or samp e non-homogene ty
- MC 7324-7 for 2-Ch oroethy v ny ether: 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 7324-7 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

Matrix: SO **Batch ID:** MSG4905

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7324-3MS, MC 7324-3MSD 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 Recove y(s) for 2-Butanone (MEK), Acetone, D ch orod f uoromethane are outs de contro m ts
- Matr x Sp ke Recovery(s) for ,4-D oxane, D ch orod f uoromethane 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 ,4-D oxane, D ch orod f uoromethane are outs de contro m ts Probab e cause due to matr x nterference
- Matr x Sp ke Recovery(s) for Benzene are outs de contro m ts Outs de contro m ts due to h gh eve n samp e re at ve to sp ke amount
- 2-Hexanone, 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
- D ch orod f uoromethane, 2-Ch oroethy v ny ethe, 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

Matrix: SO **Batch ID:** MSG4906

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7363- MS, MC 7363- 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

Matrix: SO **Batch ID:** MSM 8 3

- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7324- MS, MC 7324- MSD were used as the QC samp es nd cated

Volatiles by GCMS By Method SW846 8260B

Matrix: SO	Batch ID: MSM 8 3

- A method b anks for th s batch meet method spec f c cr ter a
- B ank Sp ke Recove y(s) for Ch oromethane, D ch orod f uoromethane are outs de contro m ts
- Matr x Sp ke Recovery(s) for Benzene, , -D ch oroethene, ,2,3-Tr ch orobenzene, ,2,4-Tr ch orobenzene, ,2-D ch orobenzene, ,4-D oxane, 2-Ch oroethy v ny ether, Acetone, Bromoform, Carbon d su f de, Ch oroethane, Ch oromethane, D ch orod f uoromethane, Naphtha ene, Tr ch orof uoromethane, V ny Acetate, V ny ch or de are outs de contro m ts Outs de contro m ts due to poss b e matr x nterference
- Matr x Sp ke Dup cate Recovery(s) for ,2,3-Tr ch orobenzene, ,2,4-Tr ch orobenzene, ,2-D ch orobenzene, ,3-D ch orobenzene, ,4-D ch orobenzene, ,4-D oxane, 2-Hexanone, 4-Methy -2-pentanone (MIBK), Naphtha ene, p-Ch oroto uene are outs de contro m ts H gh RPD due to poss b e matr x nte ference and/or samp e non-homogene ty
- RPD(s) for MSD for Benzene, Bromobenzene, , , ,2-Tetrach oroethane, , , -Tr ch oroethane, , ,2,2-Tetrach oroethane, , ,2-Tr ch oroethane, , -D ch oroethane, , -D ch oroethene, , -D ch oropropene, ,2,3-Tr ch orobenzene, ,2,3-Tr ch oropropane, ,2,4-Tr ch orobenzene, ,2,4-Tr methy benzene, ,2-D ch orobenzene, ,2-D ch oroethane, ,2-D ch oropropane, ,3,5-Tr methy benzene, ,3-D ch orobenzene, ,3-D ch oropropane, ,4-D ch orobenzene, ,4-D oxane, 2,2-D ch oropropane, 2-Butanone (MEK), 2-Ch oroethy v ny ether, 2-Hexanone, 4-Methy -2-pentanone (MIBK), Acetone, Acro e n, Acry on tr e, Bromoch oromethane, Bromod ch oromethane, Bromoform, Bromomethane, Carbon d su f de, Carbon tetrach or de, Ch orobenzene, Ch oroethane, Ch oroform, Ch oromethane, c s- ,2-D ch oroethene, c s- ,3-D ch oropropene, D bromoch oromethane, D ch orod f uoromethane, Ethy methacry ate, Ethy benzene, Hexach orobutad ene, Isopropy benzene, m,p-Xy ene, Methy Tert Buty Ether, Methy ene brom de, Methy ene ch or de, n-Buty benzene, n-Propy benzene, Naphtha ene, o-Ch oroto uene, o-Xy ene, p-Ch oroto uene, p-Isopropy to uene, sec-Buty benzene, Styrene, tert-Buty benzene, Tetrach oroethene, To uene, trans- ,2-D ch oroethene, trans- ,3-D ch oropropene, Tr ch oroethene, Tr ch orof uoromethane, V ny Acetate, V ny ch or de, Xy ene (tota) are outs de contro m ts for samp e MC 7324- MSD H gh recovery/RPD due to poss b e nonhomogene ty between samp e bott es
- MC 7324- MS for Benzene: H gh recove y/RPD due to poss b e nonhomogene ty between samp e bott es
- V ny Acetate: 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

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP3 638

- A samp es were extracted w th n the recommended method ho d ng t me
- A samp es were ana yzed w th n the recommended method ho d ng t me
- Samp e(s) MC 7327-4MS, MC 7327-4MSD 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

Matrix: SO	Batch ID: OP3 636

- A samp es were extracted w th n the recommended method ho d ng t me
- A samp es were ana yzed w th n the recommended method ho d ng t me
- A method b anks for th s batch meet method spec f c cr ter a
- Samp e(s) MC 7324- MS, MC 7324- MSD were used as the QC samp es nd cated

Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO	Batch ID: GN4 472

- Samp e(s) MC 7324- DUP were used as the QC samp es for So ds, Percent

SGS Accutest New Eng and ce t f es that a ana ys s were performed w th n method spec f cat on It s further recommended that th s report to be used n ts ent rety The Laborato y D rector for SGS Accutest New Eng and or ass gnee as ver f ed by the s gnature on the cover page has author zed the re ease of th s report(MC 7324)

Summary of Hits

Job Number: MC17324
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/03/13

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC17324-1	**GP-16-23**					
Benzene		0.0458	0.00065	0.00038	mg/kg	SW846 8260B
Ethylbenzene		0.0022 J	0.0026	0.00031	mg/kg	SW846 8260B
Toluene		0.0028 J	0.0065	0.0011	mg/kg	SW846 8260B
Xylene (total)		0.00078 J	0.0026	0.00031	mg/kg	SW846 8260B
MC17324-2	**GP-16-42**					
Benzene		476	1.1	0.67	mg/kg	SW846 8260B
Ethylbenzene		0.177 J	0.23	0.028	mg/kg	SW846 8260B
Toluene		0.999	0.57	0.097	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.292 J	0.57	0.026	mg/kg	SW846 8260B
m,p-Xylene		0.509	0.23	0.090	mg/kg	SW846 8260B
o-Xylene		0.226 J	0.23	0.027	mg/kg	SW846 8260B
Xylene (total)		0.735	0.23	0.027	mg/kg	SW846 8260B
MC17324-3	**GP-16-51**					
Acetone [a]		0.490 J	0.52	0.13	mg/kg	SW846 8260B
Benzene		25.0	0.052	0.031	mg/kg	SW846 8260B
n-Butylbenzene		0.141 J	0.52	0.019	mg/kg	SW846 8260B
sec-Butylbenzene		0.0308 J	0.52	0.024	mg/kg	SW846 8260B
Ethylbenzene		0.298	0.21	0.025	mg/kg	SW846 8260B
Isopropylbenzene		0.0508 J	0.52	0.024	mg/kg	SW846 8260B
Naphthalene		0.230 J	0.52	0.13	mg/kg	SW846 8260B
n-Propylbenzene		0.214 J	0.52	0.11	mg/kg	SW846 8260B
Toluene		0.141 J	0.52	0.088	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.975	0.52	0.023	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.293 J	0.52	0.022	mg/kg	SW846 8260B
m,p-Xylene		0.706	0.21	0.082	mg/kg	SW846 8260B
o-Xylene		0.189 J	0.21	0.025	mg/kg	SW846 8260B
Xylene (total)		0.895	0.21	0.025	mg/kg	SW846 8260B
MC17324-4	**GP-16-57**					
Acrylonitrile		24.5	2.6	0.13	mg/kg	SW846 8260B
Benzene		431	1.0	0.61	mg/kg	SW846 8260B
n-Butylbenzene		27.9	0.52	0.019	mg/kg	SW846 8260B
sec-Butylbenzene		4.96	0.52	0.024	mg/kg	SW846 8260B
tert-Butylbenzene		1.69	0.52	0.091	mg/kg	SW846 8260B
1,2-Dichloroethane		11.2	0.21	0.030	mg/kg	SW846 8260B
Ethylbenzene		33.1	0.21	0.025	mg/kg	SW846 8260B
Isopropylbenzene		10.4	0.52	0.024	mg/kg	SW846 8260B
p-Isopropyltoluene		3.09	0.52	0.018	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC17324
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/03/13

3

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Naphthalene	19.9	0.52	0.13	mg/kg	SW846 8260B
n-Propylbenzene	41.2	0.52	0.10	mg/kg	SW846 8260B
Toluene	76.8	10	1.8	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene	192	10	0.46	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene	62.0	10	0.44	mg/kg	SW846 8260B
m,p-Xylene	62.1	0.21	0.081	mg/kg	SW846 8260B
o-Xylene	11.4	0.21	0.025	mg/kg	SW846 8260B
Xylene (total)	73.5	0.21	0.025	mg/kg	SW846 8260B
MC17324-5 GP-16-57-DUP					
Acrylonitrile	27.6	2.9	0.15	mg/kg	SW846 8260B
Benzene	473	1.2	0.69	mg/kg	SW846 8260B
n-Butylbenzene	32.8	0.59	0.022	mg/kg	SW846 8260B
sec-Butylbenzene	5.87	0.59	0.027	mg/kg	SW846 8260B
tert-Butylbenzene	2.25	0.59	0.10	mg/kg	SW846 8260B
Ethylbenzene	21.5	0.24	0.028	mg/kg	SW846 8260B
2-Hexanone [a]	19.1	0.59	0.059	mg/kg	SW846 8260B
Isopropylbenzene	12.7	0.59	0.027	mg/kg	SW846 8260B
p-Isopropyltoluene	3.70	0.59	0.021	mg/kg	SW846 8260B
Naphthalene	24.8	0.59	0.15	mg/kg	SW846 8260B
n-Propylbenzene	58.8	12	2.4	mg/kg	SW846 8260B
Toluene	94.3	12	2.0	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene	244	12	0.53	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene	77.7	12	0.50	mg/kg	SW846 8260B
m,p-Xylene	40.0	0.24	0.093	mg/kg	SW846 8260B
o-Xylene	7.63	0.24	0.028	mg/kg	SW846 8260B
Xylene (total)	47.6	0.24	0.028	mg/kg	SW846 8260B
MC17324-6 GP-16-77					
Acetone [a]	0.544	0.49	0.12	mg/kg	SW846 8260B
Benzene	2.18	0.049	0.029	mg/kg	SW846 8260B
n-Butylbenzene	0.400 J	0.49	0.018	mg/kg	SW846 8260B
sec-Butylbenzene	0.0725 J	0.49	0.022	mg/kg	SW846 8260B
Ethylbenzene	0.814	0.19	0.023	mg/kg	SW846 8260B
Isopropylbenzene	0.128 J	0.49	0.022	mg/kg	SW846 8260B
p-Isopropyltoluene	0.0518 J	0.49	0.017	mg/kg	SW846 8260B
Naphthalene	0.938	0.49	0.12	mg/kg	SW846 8260B
n-Propylbenzene	0.506	0.49	0.099	mg/kg	SW846 8260B
Toluene	0.608	0.49	0.082	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene	2.53	0.49	0.022	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene	0.740	0.49	0.021	mg/kg	SW846 8260B
m,p-Xylene	1.72	0.19	0.077	mg/kg	SW846 8260B
o-Xylene	0.297	0.19	0.023	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC17324
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/03/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Xylene (total)		2.02	0.19	0.023	mg/kg	SW846 8260B

MC17324-7 **TRIP BLANK**

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:	GP-16-23		
Lab Sample ID:	MC17324-1	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	80.7
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M53337.D	1	01/09/13	AMY	n/a	n/a	MSM1813
Run #2							

	Initial Weight	Final Volume
Run #1	4.80 g	5.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.0065	0.0016	mg/kg	
107-02-8	Acrolein	ND	0.032	0.013	mg/kg	
107-13-1	Acrylonitrile	ND	0.032	0.0016	mg/kg	
71-43-2	Benzene	0.0458	0.00065	0.00038	mg/kg	
108-86-1	Bromobenzene	ND	0.0065	0.00029	mg/kg	
74-97-5	Bromochloromethane	ND	0.0065	0.00048	mg/kg	
75-27-4	Bromodichloromethane	ND	0.0026	0.00027	mg/kg	
75-25-2	Bromoform	ND	0.0026	0.0026	mg/kg	
74-83-9	Bromomethane	ND	0.0026	0.00067	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.0065	0.0016	mg/kg	
104-51-8	n-Butylbenzene	ND	0.0065	0.00024	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0065	0.00030	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0065	0.0011	mg/kg	
75-15-0	Carbon disulfide	ND	0.0065	0.00021	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.0026	0.00094	mg/kg	
108-90-7	Chlorobenzene	ND	0.0026	0.00036	mg/kg	
75-00-3	Chloroethane	ND	0.0065	0.0016	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.0065	0.0026	mg/kg	
67-66-3	Chloroform	ND	0.0026	0.00067	mg/kg	
74-87-3	Chloromethane	ND	0.0065	0.00060	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.0065	0.0014	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.0065	0.00029	mg/kg	
124-48-1	Dibromochloromethane	ND	0.0026	0.00038	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.0026	0.00028	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.0026	0.00029	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.0026	0.00027	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.0026	0.0015	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.0026	0.00035	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0026	0.00037	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.0026	0.00047	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.0026	0.00039	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.0026	0.00037	mg/kg	

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:	GP-16-23		
Lab Sample ID:	MC17324-1	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	80.7
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.0026	0.00048	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.0065	0.00030	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.0065	0.0011	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.0065	0.00034	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0026	0.00022	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0026	0.00064	mg/kg	
123-91-1	1,4-Dioxane	ND	0.032	0.032	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.0065	0.00088	mg/kg	
100-41-4	Ethylbenzene	0.0022	0.0026	0.00031	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	0.0065	0.00060	mg/kg	
591-78-6	2-Hexanone	ND	0.0065	0.00065	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0065	0.00029	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.0065	0.00023	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0026	0.00037	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.0065	0.00065	mg/kg	
74-95-3	Methylene bromide	ND	0.0065	0.00064	mg/kg	
75-09-2	Methylene chloride	ND	0.0026	0.0015	mg/kg	
91-20-3	Naphthalene	ND	0.0065	0.0016	mg/kg	
103-65-1	n-Propylbenzene	ND	0.0065	0.0013	mg/kg	
100-42-5	Styrene	ND	0.0065	0.00030	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0065	0.0013	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0026	0.00055	mg/kg	
127-18-4	Tetrachloroethene	ND	0.0026	0.00030	mg/kg	
108-88-3	Toluene	0.0028	0.0065	0.0011	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	0.0065	0.00031	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0065	0.00030	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.0026	0.00041	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.0026	0.00095	mg/kg	
79-01-6	Trichloroethene	ND	0.0026	0.00027	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.0026	0.00039	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.0065	0.00038	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0065	0.00029	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0065	0.00028	mg/kg	
108-05-4	Vinyl Acetate [a]	ND	0.0065	0.00072	mg/kg	
75-01-4	Vinyl chloride	ND	0.0026	0.00035	mg/kg	
	m,p-Xylene	ND	0.0026	0.0010	mg/kg	
95-47-6	o-Xylene	ND	0.0026	0.00031	mg/kg	
1330-20-7	Xylene (total)	0.00078	0.0026	0.00031	mg/kg	J

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:	GP-16-23		
Lab Sample ID:	MC17324-1	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	80.7
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%
2037-26-5	Toluene-D8	89%		70-130%
460-00-4	4-Bromofluorobenzene	81%		70-130%

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

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

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:	GP-16-23		
Lab Sample ID:	MC17324-1	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	80.7
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20537.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0031	0.0014	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0031	0.0012	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	130%		61-167%
460-00-4	Bromofluorobenzene (S)	123%		61-167%

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:	GP-16-42		
Lab Sample ID:	MC17324-2	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	84.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123497.D	1	01/08/13	JM	n/a	n/a	MSG4905
Run #2	G123516.D	1	01/09/13	JM	n/a	n/a	MSG4906

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.66 g	10.0 ml	100 ul
Run #2	5.66 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.57	0.14	mg/kg	
107-02-8	Acrolein [b]	ND	2.9	1.1	mg/kg	
107-13-1	Acrylonitrile	ND	2.9	0.14	mg/kg	
71-43-2	Benzene	476 [c]	1.1	0.67	mg/kg	
108-86-1	Bromobenzene	ND	0.57	0.025	mg/kg	
74-97-5	Bromochloromethane	ND	0.57	0.043	mg/kg	
75-27-4	Bromodichloromethane	ND	0.23	0.024	mg/kg	
75-25-2	Bromoform	ND	0.23	0.23	mg/kg	
74-83-9	Bromomethane	ND	0.23	0.059	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.57	0.14	mg/kg	
104-51-8	n-Butylbenzene	ND	0.57	0.021	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.57	0.026	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.57	0.10	mg/kg	
75-15-0	Carbon disulfide	ND	0.57	0.019	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.23	0.083	mg/kg	
108-90-7	Chlorobenzene	ND	0.23	0.031	mg/kg	
75-00-3	Chloroethane	ND	0.57	0.14	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.57	0.23	mg/kg	
67-66-3	Chloroform	ND	0.23	0.059	mg/kg	
74-87-3	Chloromethane	ND	0.57	0.053	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.57	0.13	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.57	0.026	mg/kg	
124-48-1	Dibromochloromethane	ND	0.23	0.034	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.23	0.025	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.23	0.026	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.23	0.024	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.23	0.13	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.23	0.031	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.23	0.033	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.23	0.042	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.23	0.034	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.23	0.033	mg/kg	

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:	GP-16-42		
Lab Sample ID:	MC17324-2	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	84.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.23	0.043	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.57	0.026	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.57	0.099	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.57	0.030	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.23	0.020	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.23	0.057	mg/kg	
123-91-1	1,4-Dioxane	ND	2.9	2.9	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.57	0.078	mg/kg	
100-41-4	Ethylbenzene	0.177	0.23	0.028	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	0.57	0.053	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.57	0.057	mg/kg	
98-82-8	Isopropylbenzene	ND	0.57	0.026	mg/kg	
99-87-6	p-Isopropyltoluene	ND	0.57	0.020	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.23	0.033	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.57	0.057	mg/kg	
74-95-3	Methylene bromide	ND	0.57	0.056	mg/kg	
75-09-2	Methylene chloride	ND	0.23	0.13	mg/kg	
91-20-3	Naphthalene	ND	0.57	0.14	mg/kg	
103-65-1	n-Propylbenzene	ND	0.57	0.12	mg/kg	
100-42-5	Styrene	ND	0.57	0.027	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.57	0.11	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.23	0.049	mg/kg	
127-18-4	Tetrachloroethene	ND	0.23	0.026	mg/kg	
108-88-3	Toluene	0.999	0.57	0.097	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.57	0.027	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.57	0.026	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.23	0.036	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.23	0.084	mg/kg	
79-01-6	Trichloroethene	ND	0.23	0.024	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.23	0.035	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.57	0.033	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.292	0.57	0.026	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.57	0.024	mg/kg	
108-05-4	Vinyl Acetate	ND	0.57	0.064	mg/kg	
75-01-4	Vinyl chloride	ND	0.23	0.031	mg/kg	
	m,p-Xylene	0.509	0.23	0.090	mg/kg	
95-47-6	o-Xylene	0.226	0.23	0.027	mg/kg	J
1330-20-7	Xylene (total)	0.735	0.23	0.027	mg/kg	

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:	GP-16-42		
Lab Sample ID:	MC17324-2	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	84.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%	87%	70-130%
2037-26-5	Toluene-D8	81%	83%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	70-130%

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

(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.
(c) 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:	GP-16-42		
Lab Sample ID:	MC17324-2	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	84.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20538.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	136%		61-167%
460-00-4	Bromofluorobenzene (S)	128%		61-167%

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

SGS ACCUTEST
MC17324

Report of Analysis

Client Sample ID:	GP-16-51		
Lab Sample ID:	MC17324-3	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	90.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123498.D	1	01/08/13	JM	n/a	n/a	MSG4905
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.59 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	0.490	0.52	0.13	mg/kg	J
107-02-8	Acrolein [b]	ND	2.6	1.0	mg/kg	
107-13-1	Acrylonitrile	ND	2.6	0.13	mg/kg	
71-43-2	Benzene	25.0	0.052	0.031	mg/kg	
108-86-1	Bromobenzene	ND	0.52	0.023	mg/kg	
74-97-5	Bromochloromethane	ND	0.52	0.039	mg/kg	
75-27-4	Bromodichloromethane	ND	0.21	0.022	mg/kg	
75-25-2	Bromoform	ND	0.21	0.21	mg/kg	
74-83-9	Bromomethane	ND	0.21	0.054	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.52	0.13	mg/kg	
104-51-8	n-Butylbenzene	0.141	0.52	0.019	mg/kg	J
135-98-8	sec-Butylbenzene	0.0308	0.52	0.024	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.52	0.091	mg/kg	
75-15-0	Carbon disulfide	ND	0.52	0.017	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.21	0.075	mg/kg	
108-90-7	Chlorobenzene	ND	0.21	0.028	mg/kg	
75-00-3	Chloroethane	ND	0.52	0.13	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.52	0.21	mg/kg	
67-66-3	Chloroform	ND	0.21	0.053	mg/kg	
74-87-3	Chloromethane	ND	0.52	0.048	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.52	0.11	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.52	0.023	mg/kg	
124-48-1	Dibromochloromethane	ND	0.21	0.031	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.21	0.022	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.21	0.023	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.21	0.022	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.21	0.12	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.21	0.028	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.21	0.030	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.21	0.038	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.21	0.031	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.21	0.030	mg/kg	

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:	GP-16-51		
Lab Sample ID:	MC17324-3	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	90.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.21	0.039	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.52	0.024	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.52	0.090	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.52	0.027	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.21	0.018	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.21	0.051	mg/kg	
123-91-1	1,4-Dioxane	ND	2.6	2.6	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.52	0.071	mg/kg	
100-41-4	Ethylbenzene	0.298	0.21	0.025	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.52	0.048	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.52	0.052	mg/kg	
98-82-8	Isopropylbenzene	0.0508	0.52	0.024	mg/kg	J
99-87-6	p-Isopropyltoluene	ND	0.52	0.018	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.21	0.030	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.52	0.052	mg/kg	
74-95-3	Methylene bromide	ND	0.52	0.051	mg/kg	
75-09-2	Methylene chloride	ND	0.21	0.12	mg/kg	
91-20-3	Naphthalene	0.230	0.52	0.13	mg/kg	J
103-65-1	n-Propylbenzene	0.214	0.52	0.11	mg/kg	J
100-42-5	Styrene	ND	0.52	0.024	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.52	0.10	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.21	0.044	mg/kg	
127-18-4	Tetrachloroethene	ND	0.21	0.024	mg/kg	
108-88-3	Toluene	0.141	0.52	0.088	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	0.52	0.025	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.52	0.024	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.21	0.033	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.21	0.076	mg/kg	
79-01-6	Trichloroethene	ND	0.21	0.022	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.21	0.031	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.52	0.030	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.975	0.52	0.023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.293	0.52	0.022	mg/kg	J
108-05-4	Vinyl Acetate	ND	0.52	0.058	mg/kg	
75-01-4	Vinyl chloride	ND	0.21	0.028	mg/kg	
	m,p-Xylene	0.706	0.21	0.082	mg/kg	
95-47-6	o-Xylene	0.189	0.21	0.025	mg/kg	J
1330-20-7	Xylene (total)	0.895	0.21	0.025	mg/kg	

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:	GP-16-51		
Lab Sample ID:	MC17324-3	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	90.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		70-130%
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	88%		70-130%

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

(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.

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:	GP-16-51		
Lab Sample ID:	MC17324-3	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	90.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20539.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0027	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0027	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	132%		61-167%
460-00-4	Bromofluorobenzene (S)	124%		61-167%

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:	GP-16-57		
Lab Sample ID:	MC17324-4	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	87.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123499.D	1	01/08/13	JM	n/a	n/a	MSG4905
Run #2	G123517.D	1	01/09/13	JM	n/a	n/a	MSG4906

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.99 g	10.0 ml	100 ul
Run #2	5.99 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.52	0.13	mg/kg	
107-02-8	Acrolein [b]	ND	2.6	1.0	mg/kg	
107-13-1	Acrylonitrile	24.5	2.6	0.13	mg/kg	
71-43-2	Benzene	431 [c]	1.0	0.61	mg/kg	
108-86-1	Bromobenzene	ND	0.52	0.023	mg/kg	
74-97-5	Bromochloromethane	ND	0.52	0.039	mg/kg	
75-27-4	Bromodichloromethane	ND	0.21	0.022	mg/kg	
75-25-2	Bromoform	ND	0.21	0.21	mg/kg	
74-83-9	Bromomethane	ND	0.21	0.054	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.52	0.13	mg/kg	
104-51-8	n-Butylbenzene	27.9	0.52	0.019	mg/kg	
135-98-8	sec-Butylbenzene	4.96	0.52	0.024	mg/kg	
98-06-6	tert-Butylbenzene	1.69	0.52	0.091	mg/kg	
75-15-0	Carbon disulfide	ND	0.52	0.017	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.21	0.075	mg/kg	
108-90-7	Chlorobenzene	ND	0.21	0.028	mg/kg	
75-00-3	Chloroethane	ND	0.52	0.13	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.52	0.21	mg/kg	
67-66-3	Chloroform	ND	0.21	0.053	mg/kg	
74-87-3	Chloromethane	ND	0.52	0.048	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.52	0.11	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.52	0.023	mg/kg	
124-48-1	Dibromochloromethane	ND	0.21	0.030	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.21	0.022	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.21	0.023	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.21	0.022	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.21	0.12	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.21	0.028	mg/kg	
107-06-2	1,2-Dichloroethane	11.2	0.21	0.030	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.21	0.038	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.21	0.031	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.21	0.030	mg/kg	

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:	GP-16-57		
Lab Sample ID:	MC17324-4	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	87.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.21	0.038	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.52	0.024	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.52	0.090	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.52	0.027	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.21	0.018	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.21	0.051	mg/kg	
123-91-1	1,4-Dioxane	ND	2.6	2.6	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.52	0.070	mg/kg	
100-41-4	Ethylbenzene	33.1	0.21	0.025	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.52	0.048	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.52	0.052	mg/kg	
98-82-8	Isopropylbenzene	10.4	0.52	0.024	mg/kg	
99-87-6	p-Isopropyltoluene	3.09	0.52	0.018	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.21	0.030	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.52	0.052	mg/kg	
74-95-3	Methylene bromide	ND	0.52	0.051	mg/kg	
75-09-2	Methylene chloride	ND	0.21	0.12	mg/kg	
91-20-3	Naphthalene	19.9	0.52	0.13	mg/kg	
103-65-1	n-Propylbenzene	41.2	0.52	0.10	mg/kg	
100-42-5	Styrene	ND	0.52	0.024	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.52	0.10	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.21	0.044	mg/kg	
127-18-4	Tetrachloroethene	ND	0.21	0.024	mg/kg	
108-88-3	Toluene	76.8 [c]	10	1.8	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.52	0.024	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.52	0.024	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.21	0.033	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.21	0.076	mg/kg	
79-01-6	Trichloroethene	ND	0.21	0.022	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.21	0.031	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.52	0.030	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	192 [c]	10	0.46	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	62.0 [c]	10	0.44	mg/kg	
108-05-4	Vinyl Acetate	ND	0.52	0.058	mg/kg	
75-01-4	Vinyl chloride	ND	0.21	0.028	mg/kg	
	m,p-Xylene	62.1	0.21	0.081	mg/kg	
95-47-6	o-Xylene	11.4	0.21	0.025	mg/kg	
1330-20-7	Xylene (total)	73.5	0.21	0.025	mg/kg	

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:	GP-16-57		
Lab Sample ID:	MC17324-4	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	87.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%	88%	70-130%
2037-26-5	Toluene-D8	88%	85%	70-130%
460-00-4	4-Bromofluorobenzene	98%	86%	70-130%

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

(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.
(c) 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:	GP-16-57		
Lab Sample ID:	MC17324-4	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.1
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20540.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.9 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	122%		61-167%
460-00-4	Bromofluorobenzene (S)	110%		61-167%

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:	GP-16-57-DUP		
Lab Sample ID:	MC17324-5	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	85.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123500.D	1	01/08/13	JM	n/a	n/a	MSG4905
Run #2	G123518.D	1	01/09/13	JM	n/a	n/a	MSG4906

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.34 g	10.0 ml	100 ul
Run #2	5.34 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	0.59	0.15	mg/kg	
107-02-8	Acrolein [b]	ND	2.9	1.2	mg/kg	
107-13-1	Acrylonitrile	27.6	2.9	0.15	mg/kg	
71-43-2	Benzene	473 [c]	1.2	0.69	mg/kg	
108-86-1	Bromobenzene	ND	0.59	0.026	mg/kg	
74-97-5	Bromochloromethane	ND	0.59	0.044	mg/kg	
75-27-4	Bromodichloromethane	ND	0.24	0.025	mg/kg	
75-25-2	Bromoform	ND	0.24	0.24	mg/kg	
74-83-9	Bromomethane	ND	0.24	0.061	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.59	0.15	mg/kg	
104-51-8	n-Butylbenzene	32.8	0.59	0.022	mg/kg	
135-98-8	sec-Butylbenzene	5.87	0.59	0.027	mg/kg	
98-06-6	tert-Butylbenzene	2.25	0.59	0.10	mg/kg	
75-15-0	Carbon disulfide	ND	0.59	0.019	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.24	0.086	mg/kg	
108-90-7	Chlorobenzene	ND	0.24	0.032	mg/kg	
75-00-3	Chloroethane	ND	0.59	0.15	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.59	0.24	mg/kg	
67-66-3	Chloroform	ND	0.24	0.061	mg/kg	
74-87-3	Chloromethane	ND	0.59	0.055	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.59	0.13	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.59	0.027	mg/kg	
124-48-1	Dibromochloromethane	ND	0.24	0.035	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.24	0.025	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.24	0.027	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.24	0.025	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.24	0.13	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.24	0.032	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.24	0.034	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.24	0.043	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.24	0.035	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.24	0.034	mg/kg	

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:	GP-16-57-DUP		
Lab Sample ID:	MC17324-5	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	85.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.24	0.044	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.59	0.027	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.59	0.10	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.59	0.031	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.24	0.020	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.24	0.058	mg/kg	
123-91-1	1,4-Dioxane	ND	2.9	2.9	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.59	0.080	mg/kg	
100-41-4	Ethylbenzene	21.5	0.24	0.028	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.59	0.055	mg/kg	
591-78-6	2-Hexanone [a]	19.1	0.59	0.059	mg/kg	
98-82-8	Isopropylbenzene	12.7	0.59	0.027	mg/kg	
99-87-6	p-Isopropyltoluene	3.70	0.59	0.021	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.24	0.034	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.59	0.059	mg/kg	
74-95-3	Methylene bromide	ND	0.59	0.058	mg/kg	
75-09-2	Methylene chloride	ND	0.24	0.14	mg/kg	
91-20-3	Naphthalene	24.8	0.59	0.15	mg/kg	
103-65-1	n-Propylbenzene	58.8 [c]	12	2.4	mg/kg	
100-42-5	Styrene	ND	0.59	0.028	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.59	0.12	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.24	0.050	mg/kg	
127-18-4	Tetrachloroethene	ND	0.24	0.027	mg/kg	
108-88-3	Toluene	94.3 [c]	12	2.0	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.59	0.028	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.59	0.027	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.24	0.037	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.24	0.087	mg/kg	
79-01-6	Trichloroethene	ND	0.24	0.025	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.24	0.036	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.59	0.034	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	244 [c]	12	0.53	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	77.7 [c]	12	0.50	mg/kg	
108-05-4	Vinyl Acetate	ND	0.59	0.066	mg/kg	
75-01-4	Vinyl chloride	ND	0.24	0.032	mg/kg	
	m,p-Xylene	40.0	0.24	0.093	mg/kg	
95-47-6	o-Xylene	7.63	0.24	0.028	mg/kg	
1330-20-7	Xylene (total)	47.6	0.24	0.028	mg/kg	

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:	GP-16-57-DUP		
Lab Sample ID:	MC17324-5	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	85.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%	87%	70-130%
2037-26-5	Toluene-D8	93%	84%	70-130%
460-00-4	4-Bromofluorobenzene	101%	83%	70-130%

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

(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.
(c) 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:	GP-16-57-DUP		
Lab Sample ID:	MC17324-5	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	85.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20541.D	1	01/09/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	115%		61-167%
460-00-4	Bromofluorobenzene (S)	112%		61-167%

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:	GP-16-77		
Lab Sample ID:	MC17324-6	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	89.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123501.D	1	01/08/13	JM	n/a	n/a	MSG4905
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.13 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	0.544	0.49	0.12	mg/kg	
107-02-8	Acrolein [b]	ND	2.4	0.97	mg/kg	
107-13-1	Acrylonitrile	ND	2.4	0.12	mg/kg	
71-43-2	Benzene	2.18	0.049	0.029	mg/kg	
108-86-1	Bromobenzene	ND	0.49	0.022	mg/kg	
74-97-5	Bromochloromethane	ND	0.49	0.036	mg/kg	
75-27-4	Bromodichloromethane	ND	0.19	0.021	mg/kg	
75-25-2	Bromoform	ND	0.19	0.19	mg/kg	
74-83-9	Bromomethane	ND	0.19	0.050	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.49	0.12	mg/kg	
104-51-8	n-Butylbenzene	0.400	0.49	0.018	mg/kg	J
135-98-8	sec-Butylbenzene	0.0725	0.49	0.022	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.49	0.086	mg/kg	
75-15-0	Carbon disulfide	ND	0.49	0.016	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.19	0.071	mg/kg	
108-90-7	Chlorobenzene	ND	0.19	0.027	mg/kg	
75-00-3	Chloroethane	ND	0.49	0.12	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.49	0.19	mg/kg	
67-66-3	Chloroform	ND	0.19	0.050	mg/kg	
74-87-3	Chloromethane	ND	0.49	0.045	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.49	0.11	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.49	0.022	mg/kg	
124-48-1	Dibromochloromethane	ND	0.19	0.029	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.19	0.021	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.19	0.022	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.19	0.020	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.19	0.11	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.19	0.026	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.19	0.028	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.19	0.036	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.19	0.029	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.19	0.028	mg/kg	

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:	GP-16-77		
Lab Sample ID:	MC17324-6	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	89.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.19	0.036	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.49	0.022	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.49	0.084	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.49	0.026	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.19	0.017	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.19	0.048	mg/kg	
123-91-1	1,4-Dioxane	ND	2.4	2.4	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.49	0.066	mg/kg	
100-41-4	Ethylbenzene	0.814	0.19	0.023	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.49	0.045	mg/kg	
591-78-6	2-Hexanone [a]	ND	0.49	0.049	mg/kg	
98-82-8	Isopropylbenzene	0.128	0.49	0.022	mg/kg	J
99-87-6	p-Isopropyltoluene	0.0518	0.49	0.017	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.19	0.028	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.49	0.049	mg/kg	
74-95-3	Methylene bromide	ND	0.49	0.048	mg/kg	
75-09-2	Methylene chloride	ND	0.19	0.11	mg/kg	
91-20-3	Naphthalene	0.938	0.49	0.12	mg/kg	
103-65-1	n-Propylbenzene	0.506	0.49	0.099	mg/kg	
100-42-5	Styrene	ND	0.49	0.023	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.49	0.097	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.19	0.041	mg/kg	
127-18-4	Tetrachloroethene	ND	0.19	0.022	mg/kg	
108-88-3	Toluene	0.608	0.49	0.082	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.49	0.023	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.49	0.022	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.19	0.031	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.19	0.071	mg/kg	
79-01-6	Trichloroethene	ND	0.19	0.021	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.19	0.030	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.49	0.028	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	2.53	0.49	0.022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.740	0.49	0.021	mg/kg	
108-05-4	Vinyl Acetate	ND	0.49	0.054	mg/kg	
75-01-4	Vinyl chloride	ND	0.19	0.026	mg/kg	
	m,p-Xylene	1.72	0.19	0.077	mg/kg	
95-47-6	o-Xylene	0.297	0.19	0.023	mg/kg	
1330-20-7	Xylene (total)	2.02	0.19	0.023	mg/kg	

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:	GP-16-77		
Lab Sample ID:	MC17324-6	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	89.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	82%		70-130%

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

(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.

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:	GP-16-77		
Lab Sample ID:	MC17324-6	Date Sampled:	01/03/13
Matrix:	SO - Soil	Date Received:	01/05/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	89.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20542.D	1	01/09/13	AP	01/07/13	OP31636	GBK742
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	119%		61-167%
460-00-4	Bromofluorobenzene (S)	124%		61-167%

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:	TRIP BLANK		
Lab Sample ID:	MC17324-7	Date Sampled:	01/03/13
Matrix:	AQ - Trip Blank Water	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V15130.D	1	01/10/13	AMY	n/a	n/a	MSV612
Run #2							

	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 [a]	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	1.3	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	0.61	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 [a]	ND	5.0	1.3	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 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:	TRIP BLANK		
Lab Sample ID:	MC17324-7	Date Sampled:	01/03/13
Matrix:	AQ - Trip Blank Water	Date Received:	01/05/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, 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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC17324-7	**Date Sampled:**	01/03/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/05/13
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	103%		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.

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:	TRIP BLANK		
Lab Sample ID:	MC17324-7	**Date Sampled:**	01/03/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/05/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK20511.D	1	01/08/13	AP	01/07/13	OP31638	GBK741
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)	128%		36-173%
460-00-4	Bromofluorobenzene (S)	112%		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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC17324

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel | E-mail:
Phone #: | Fax #:
Sampler(s) Name(s): W. Pennington, J. Stadtler | Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City: Roxana, IL
Project#: 21562850.15000
Client PO#:
Project Manager: D. Palmer

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-1	GP-16-23		1/3/13	1035	WP/JS	SO	4					X		X		X	X	X	
-1S	GP-16-23-MS			1035								X		X		X	X	X	
-1SD	GP-16-23-MSD			1035								X		X		X	X	X	
-2	GP-16-42			1255								X		X		X	X	X	
-3	GP-16-51			1430								X		X		X	X	X	
-4	GP-16-57			1530								X		X		X	X	X	
-5	GP-16-57-Dup			1530								X		X		X	X	X	
-6	GP-16-77			1605								X		X		X	X	X	
-7	Trip Blank																X	X	13F, 10C5, 1G1

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [x] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	1/4/13 1230	1 Fed Ex	2 FedEx	1/5/13 10:00	2 [signature]
3		3	4		4
5		5			

Custody Seal #: [ ] Intact [ ] Not intact | Preserved where applicable [ ] | On Ice [x] | Cooler Temp. 1.0°

5.1 5

MC17324: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC17324 Client: URS Immediate Client Services Action Required: No

Date / Time Received: 1/5/2013 Delivery Method: Client Service Action Required at Login: No

Project: ROXANA DRILLING 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:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservatio	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

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC17324: Chain of Custody
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Internal Sample Tracking Chronicle

Shell Oil

Job No: MC17324

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC17324-1 Collected: 03-JAN-13 10:35 By: WPJS GP-16-23			Received: 05-JAN-13 By:			
MC17324-1	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-1	SW846 8011	08-JAN-13 22:37	AP	07-JAN-13	FC	V8011SL
MC17324-1	SW846 8260B	09-JAN-13 16:38	AMY			V8260SL+
MC17324-2 Collected: 03-JAN-13 12:55 By: WPJS GP-16-42			Received: 05-JAN-13 By:			
MC17324-2	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-2	SW846 8260B	08-JAN-13 12:13	JM			V8260SL+
MC17324-2	SW846 8011	08-JAN-13 23:02	AP	07-JAN-13	FC	V8011SL
MC17324-2	SW846 8260B	09-JAN-13 11:12	JM			V8260SL+
MC17324-3 Collected: 03-JAN-13 14:30 By: WPJS GP-16-51			Received: 05-JAN-13 By:			
MC17324-3	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-3	SW846 8260B	08-JAN-13 12:42	JM			V8260SL+
MC17324-3	SW846 8011	08-JAN-13 23:26	AP	07-JAN-13	FC	V8011SL
MC17324-4 Collected: 03-JAN-13 15:30 By: WPJS GP-16-57			Received: 05-JAN-13 By:			
MC17324-4	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-4	SW846 8260B	08-JAN-13 13:10	JM			V8260SL+
MC17324-4	SW846 8011	08-JAN-13 23:51	AP	07-JAN-13	FC	V8011SL
MC17324-4	SW846 8260B	09-JAN-13 11:41	JM			V8260SL+
MC17324-5 Collected: 03-JAN-13 15:30 By: WPJS GP-16-57-DUP			Received: 05-JAN-13 By:			
MC17324-5	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-5	SW846 8260B	08-JAN-13 13:39	JM			V8260SL+
MC17324-5	SW846 8011	09-JAN-13 00:15	AP	07-JAN-13	FC	V8011SL
MC17324-5	SW846 8260B	09-JAN-13 12:10	JM			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC17324

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC17324-6 Collected: 03-JAN-13 16:05 By: WPJS Received: 05-JAN-13 By: GP-16-77						
MC17324-6	SM21 2540 B MOD.	08-JAN-13	HS			%SOL
MC17324-6	SW846 8260B	08-JAN-13 14:09	JM			V8260SL+
MC17324-6	SW846 8011	09-JAN-13 00:39	AP	07-JAN-13	FC	V8011SL
MC17324-7 Collected: 03-JAN-13 00:00 By: WPJS Received: 05-JAN-13 By: TRIP BLANK						
MC17324-7	SW846 8011	08-JAN-13 02:36	AP	07-JAN-13	BJ	V8011SL
MC17324-7	SW846 8260B	10-JAN-13 12:38	AMY			V8260SL+

SGS Accutest Internal Chain of Custody

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/05/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17324-1.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-1.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-1.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-1.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-1.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.2	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-1.2	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-1.2	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.3	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-1.3	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-1.3	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.4	VOC Ref #10	Amy Min Yang	01/09/13 14:47	Retrieve from Storage
MC17324-1.4	Amy Min Yang	GCMSM	01/09/13 14:47	Load on Instrument
MC17324-1.4	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC17324-1.4	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC17324-1.4	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.5	VOC Ref #10	Amy Min Yang	01/09/13 11:39	Retrieve from Storage
MC17324-1.5	Amy Min Yang	GCMSM	01/09/13 11:39	Load on Instrument
MC17324-1.5	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC17324-1.5	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC17324-1.5	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.6	VOC Ref #10	Amy Min Yang	01/09/13 11:39	Retrieve from Storage
MC17324-1.6	Amy Min Yang	GCMSM	01/09/13 11:39	Load on Instrument
MC17324-1.6	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC17324-1.6	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC17324-1.6	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.7	VOC Ref #10	Amy Min Yang	01/09/13 11:39	Retrieve from Storage
MC17324-1.7	Amy Min Yang	GCMSM	01/09/13 11:39	Load on Instrument
MC17324-1.7	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC17324-1.7	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC17324-1.7	Scott Parsick		03/13/13 14:24	Disposed
MC17324-1.9	VOC Ref #10	Amy Min Yang	01/09/13 15:16	Retrieve from Storage
MC17324-1.9	Amy Min Yang	GCMSM	01/09/13 15:16	Load on Instrument
MC17324-1.9	GCMSM	Amy Min Yang	01/15/13 12:38	Unload from Instrument
MC17324-1.9	Amy Min Yang	Freezer #6	01/15/13 12:38	Return to Storage
MC17324-1.9	Scott Parsick		03/13/13 14:24	Disposed

SGS Accutest Internal Chain of Custody

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/05/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17324-1.12	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-1.12	Jaime Maslowski	VOC Ref #10	01/09/13 08:05	Return to Storage
MC17324-1.12	Scott Parsick		03/13/13 14:24	Disposed
MC17324-2.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-2.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-2.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-2.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-2.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-2.4	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-2.4	Jaime Maslowski	VOC Ref #10	01/10/13 10:09	Return to Storage
MC17324-2.4	Scott Parsick		03/13/13 14:24	Disposed
MC17324-3.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-3.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-3.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-3.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-3.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-3.4	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-3.4	Jaime Maslowski	VOC Ref #10	01/09/13 08:05	Return to Storage
MC17324-3.4	Scott Parsick		03/13/13 14:24	Disposed
MC17324-4.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-4.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-4.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-4.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-4.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-4.4	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-4.4	Jaime Maslowski	VOC Ref #10	01/10/13 10:09	Return to Storage
MC17324-4.4	Scott Parsick		03/13/13 14:24	Disposed
MC17324-5.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-5.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-5.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-5.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-5.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-5.4	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-5.4	Jaime Maslowski	VOC Ref #10	01/10/13 10:09	Return to Storage
MC17324-5.4	Scott Parsick		03/13/13 14:24	Disposed

SGS Accutest Internal Chain of Custody

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/05/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17324-6.1	Walk In Ref #9	Bijan Jafari	01/07/13 11:29	Retrieve from Storage
MC17324-6.1	Bijan Jafari	Walk In Ref #9	01/07/13 13:49	Return to Storage
MC17324-6.1	Walk In Ref #9	Hamid Siamak	01/08/13 10:43	Retrieve from Storage
MC17324-6.1	Hamid Siamak	Walk In Ref #9	01/08/13 14:45	Return to Storage
MC17324-6.1	Scott Parsick		03/13/13 14:24	Disposed
MC17324-6.4	VOC Ref #10	Jaime Maslowski	01/08/13 09:22	Retrieve from Storage
MC17324-6.4	Jaime Maslowski	VOC Ref #10	01/09/13 08:05	Return to Storage
MC17324-6.4	Scott Parsick		03/13/13 14:24	Disposed
MC17324-7.1	VOC Ref #1	Bijan Jafari	01/07/13 13:50	Retrieve from Storage
MC17324-7.1	Bijan Jafari		01/17/13 19:07	Depleted
MC17324-7.3	VOC Ref #1	Amy Min Yang	01/10/13 11:54	Retrieve from Storage
MC17324-7.3	Amy Min Yang	GCMSV	01/10/13 11:54	Load on Instrument
MC17324-7.3	GCMSV	Amy Min Yang	01/11/13 09:22	Unload from Instrument
MC17324-7.3	Amy Min Yang	VOC Ref #1	01/11/13 09:22	Return to Storage
MC17324-7.3	Scott Parsick		03/13/13 14:24	Disposed

GC/MS Volatiles

QC Data Summaries

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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-MB	G123493.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	63	ug/kg	
107-02-8	Acrolein	ND	1300	500	ug/kg	
107-13-1	Acrylonitrile	ND	1300	63	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	
108-86-1	Bromobenzene	ND	250	11	ug/kg	
74-97-5	Bromochloromethane	ND	250	19	ug/kg	
75-27-4	Bromodichloromethane	ND	100	11	ug/kg	
75-25-2	Bromoform	ND	100	100	ug/kg	
74-83-9	Bromomethane	ND	100	26	ug/kg	
78-93-3	2-Butanone (MEK)	ND	250	63	ug/kg	
104-51-8	n-Butylbenzene	ND	250	9.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	11	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	44	ug/kg	
75-15-0	Carbon disulfide	ND	250	8.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	36	ug/kg	
108-90-7	Chlorobenzene	ND	100	14	ug/kg	
75-00-3	Chloroethane	ND	250	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	100	26	ug/kg	
74-87-3	Chloromethane	ND	250	23	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	55	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	11	ug/kg	
124-48-1	Dibromochloromethane	ND	100	15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	11	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	11	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	19	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	12	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	13	ug/kg	

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-MB	G123493.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	8.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	25	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	1300	ug/kg	
97-63-2	Ethyl methacrylate	ND	250	34	ug/kg	
100-41-4	Ethylbenzene	ND	100	12	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	23	ug/kg	
591-78-6	2-Hexanone	ND	250	25	ug/kg	
98-82-8	Isopropylbenzene	ND	250	11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	25	ug/kg	
74-95-3	Methylene bromide	ND	250	25	ug/kg	
75-09-2	Methylene chloride	ND	100	58	ug/kg	
91-20-3	Naphthalene	ND	250	63	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
100-42-5	Styrene	ND	250	12	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	21	ug/kg	
127-18-4	Tetrachloroethene	ND	100	11	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	250	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	37	ug/kg	
79-01-6	Trichloroethene	ND	100	11	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	15	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	
108-05-4	Vinyl Acetate	ND	250	28	ug/kg	
75-01-4	Vinyl chloride	ND	100	14	ug/kg	
	m,p-Xylene	ND	100	39	ug/kg	
95-47-6	o-Xylene	ND	100	12	ug/kg	
1330-20-7	Xylene (total)	ND	100	12	ug/kg	

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-MB	G123493.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	94%	70-130%
460-00-4	4-Bromofluorobenzene	92%	70-130%

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

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4906-MB	G123514.D	1	01/09/13	JM	n/a	n/a	MSG4906

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-4, MC17324-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	15	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	

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	89%	70-130%

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-MB	M53326.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	1.3	ug/kg	
107-02-8	Acrolein	ND	25	10	ug/kg	
107-13-1	Acrylonitrile	ND	25	1.3	ug/kg	
71-43-2	Benzene	ND	0.50	0.29	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.22	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.21	ug/kg	
75-25-2	Bromoform	ND	2.0	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5.0	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.18	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.23	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.88	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.73	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.28	ug/kg	
75-00-3	Chloroethane	ND	5.0	1.3	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	2.0	0.52	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.46	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.23	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.30	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.23	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.27	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.29	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	0.37	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.37	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.23	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.87	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.26	ug/kg	

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-MB	M53326.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/kg	
123-91-1	1,4-Dioxane	ND	25	25	ug/kg	
97-63-2	Ethyl methacrylate	ND	5.0	0.68	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.24	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.46	ug/kg	
591-78-6	2-Hexanone	ND	5.0	0.50	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.23	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.18	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.29	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.50	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.49	ug/kg	
75-09-2	Methylene chloride	1.9	2.0	1.2	ug/kg	J
91-20-3	Naphthalene	ND	5.0	1.3	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	5.0	0.23	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.43	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.23	ug/kg	
108-88-3	Toluene	ND	5.0	0.85	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.24	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.23	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.31	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.73	ug/kg	
79-01-6	Trichloroethene	ND	2.0	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	0.30	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.29	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	0.56	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.27	ug/kg	
	m,p-Xylene	ND	2.0	0.79	ug/kg	
95-47-6	o-Xylene	ND	2.0	0.24	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	0.24	ug/kg	

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-MB	M53326.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	81%	70-130%
2037-26-5	Toluene-D8	88%	70-130%
460-00-4	4-Bromofluorobenzene	80%	70-130%

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

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

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	1.3	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	0.61	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	1.3	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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	101%	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	

Blank Spike Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-BS	G123490.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	2500	3650	146* [a]	70-130
107-02-8	Acrolein	12500	8900	71	70-130
107-13-1	Acrylonitrile	2500	2680	107	70-130
71-43-2	Benzene	2500	2560	102	70-130
108-86-1	Bromobenzene	2500	2680	107	70-130
74-97-5	Bromochloromethane	2500	2740	110	70-130
75-27-4	Bromodichloromethane	2500	2690	108	70-130
75-25-2	Bromoform	2500	2570	103	70-130
74-83-9	Bromomethane	2500	2740	110	70-130
78-93-3	2-Butanone (MEK)	2500	3420	137* [a]	70-130
104-51-8	n-Butylbenzene	2500	2620	105	70-130
135-98-8	sec-Butylbenzene	2500	2530	101	70-130
98-06-6	tert-Butylbenzene	2500	2160	86	70-130
75-15-0	Carbon disulfide	2500	2730	109	70-130
56-23-5	Carbon tetrachloride	2500	2580	103	70-130
108-90-7	Chlorobenzene	2500	2530	101	70-130
75-00-3	Chloroethane	2500	2760	110	70-130
110-75-8	2-Chloroethyl vinyl ether	2500	1290	52	10-160
67-66-3	Chloroform	2500	2670	107	70-130
74-87-3	Chloromethane	2500	3230	129	70-130
95-49-8	o-Chlorotoluene	2500	2470	99	70-130
106-43-4	p-Chlorotoluene	2500	2570	103	70-130
124-48-1	Dibromochloromethane	2500	2720	109	70-130
95-50-1	1,2-Dichlorobenzene	2500	2600	104	70-130
541-73-1	1,3-Dichlorobenzene	2500	2580	103	70-130
106-46-7	1,4-Dichlorobenzene	2500	2750	110	70-130
75-71-8	Dichlorodifluoromethane	2500	3680	147* [a]	70-130
75-34-3	1,1-Dichloroethane	2500	2710	108	70-130
107-06-2	1,2-Dichloroethane	2500	2690	108	70-130
75-35-4	1,1-Dichloroethene	2500	2970	119	70-130
156-59-2	cis-1,2-Dichloroethene	2500	2630	105	70-130
156-60-5	trans-1,2-Dichloroethene	2500	2730	109	70-130
78-87-5	1,2-Dichloropropane	2500	2590	104	70-130
142-28-9	1,3-Dichloropropane	2500	2650	106	70-130
594-20-7	2,2-Dichloropropane	2500	2670	107	70-130
563-58-6	1,1-Dichloropropene	2500	2600	104	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-BS	G123490.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	2500	2630	105	70-130
10061-02-6	trans-1,3-Dichloropropene	2500	2840	114	70-130
123-91-1	1,4-Dioxane	12500	8850	71	70-130
97-63-2	Ethyl methacrylate	2500	2650	106	76-141
100-41-4	Ethylbenzene	2500	2590	104	70-130
87-68-3	Hexachlorobutadiene	2500	2590	104	70-130
591-78-6	2-Hexanone	2500	2900	116	70-130
98-82-8	Isopropylbenzene	2500	2490	100	70-130
99-87-6	p-Isopropyltoluene	2500	2750	110	70-130
1634-04-4	Methyl Tert Butyl Ether	2500	2830	113	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2180	87	70-130
74-95-3	Methylene bromide	2500	2690	108	70-130
75-09-2	Methylene chloride	2500	2790	112	70-130
91-20-3	Naphthalene	2500	2540	102	70-130
103-65-1	n-Propylbenzene	2500	2510	100	70-130
100-42-5	Styrene	2500	2530	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	2500	2580	103	70-130
79-34-5	1,1,2,2-Tetrachloroethane	2500	2770	111	70-130
127-18-4	Tetrachloroethene	2500	2650	106	70-130
108-88-3	Toluene	2500	2610	104	70-130
87-61-6	1,2,3-Trichlorobenzene	2500	2410	96	70-130
120-82-1	1,2,4-Trichlorobenzene	2500	2550	102	70-130
71-55-6	1,1,1-Trichloroethane	2500	2490	100	70-130
79-00-5	1,1,2-Trichloroethane	2500	2700	108	70-130
79-01-6	Trichloroethene	2500	2610	104	70-130
75-69-4	Trichlorofluoromethane	2500	2730	109	70-130
96-18-4	1,2,3-Trichloropropane	2500	2740	110	70-130
95-63-6	1,2,4-Trimethylbenzene	2500	2550	102	70-130
108-67-8	1,3,5-Trimethylbenzene	2500	2540	102	70-130
108-05-4	Vinyl Acetate	2500	3140	126	70-130
75-01-4	Vinyl chloride	2500	2110	84	70-130
	m,p-Xylene	5000	5150	103	70-130
95-47-6	o-Xylene	2500	2510	100	70-130
1330-20-7	Xylene (total)	7500	7660	102	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4905-BS	G123490.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	90%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4906-BS	G123511.D	1	01/09/13	JM	n/a	n/a	MSG4906
MSG4906-BSD	G123512.D	1	01/09/13	JM	n/a	n/a	MSG4906

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-4, MC17324-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2500	2390	96	2380	95	0	70-130/25
103-65-1	n-Propylbenzene	2500	2310	92	2280	91	1	70-130/25
108-88-3	Toluene	2500	2420	97	2400	96	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2360	94	2330	93	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	2500	2360	94	2320	93	2	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	93%	92%	70-130%
2037-26-5	Toluene-D8	87%	86%	70-130%
460-00-4	4-Bromofluorobenzene	84%	84%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-BS	M53323.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MSM1813-BSD	M53324.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	38.2	76	40.1	80	5	70-130/25
107-02-8	Acrolein	250	215	86	189	76	13	70-130/25
107-13-1	Acrylonitrile	50	52.1	104	50.8	102	3	70-130/25
71-43-2	Benzene	50	49.1	98	51.1	102	4	70-130/25
108-86-1	Bromobenzene	50	43.6	87	45.7	91	5	70-130/25
74-97-5	Bromochloromethane	50	49.6	99	50.6	101	2	70-130/25
75-27-4	Bromodichloromethane	50	47.7	95	49.4	99	4	70-130/25
75-25-2	Bromoform	50	46.6	93	45.8	92	2	70-130/25
74-83-9	Bromomethane	50	57.0	114	58.4	117	2	70-130/25
78-93-3	2-Butanone (MEK)	50	46.9	94	52.4	105	11	70-130/25
104-51-8	n-Butylbenzene	50	47.6	95	51.1	102	7	70-130/25
135-98-8	sec-Butylbenzene	50	45.4	91	48.1	96	6	70-130/25
98-06-6	tert-Butylbenzene	50	44.3	89	47.4	95	7	70-130/25
75-15-0	Carbon disulfide	50	60.9	122	63.1	126	4	70-130/25
56-23-5	Carbon tetrachloride	50	55.6	111	58.7	117	5	70-130/25
108-90-7	Chlorobenzene	50	44.3	89	46.4	93	5	70-130/25
75-00-3	Chloroethane	50	58.8	118	60.2	120	2	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	42.9	86	51.3	103	18	10-160/25
67-66-3	Chloroform	50	49.6	99	51.2	102	3	70-130/25
74-87-3	Chloromethane	50	66.4	133* [a]	69.4	139* [a]	4	70-130/25
95-49-8	o-Chlorotoluene	50	42.1	84	45.2	90	7	70-130/25
106-43-4	p-Chlorotoluene	50	43.2	86	46.1	92	6	70-130/25
124-48-1	Dibromochloromethane	50	45.3	91	46.1	92	2	70-130/25
95-50-1	1,2-Dichlorobenzene	50	41.6	83	43.3	87	4	70-130/25
541-73-1	1,3-Dichlorobenzene	50	42.9	86	45.0	90	5	70-130/25
106-46-7	1,4-Dichlorobenzene	50	42.5	85	45.4	91	7	70-130/25
75-71-8	Dichlorodifluoromethane	50	72.5	145* [a]	82.0	164* [a]	12	70-130/25
75-34-3	1,1-Dichloroethane	50	51.5	103	53.2	106	3	70-130/25
107-06-2	1,2-Dichloroethane	50	48.5	97	48.3	97	0	70-130/25
75-35-4	1,1-Dichloroethene	50	59.2	118	60.9	122	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	48.6	97	50.0	100	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	53.6	107	55.4	111	3	70-130/25
78-87-5	1,2-Dichloropropane	50	45.8	92	47.4	95	3	70-130/25
142-28-9	1,3-Dichloropropane	50	44.4	89	45.2	90	2	70-130/25
594-20-7	2,2-Dichloropropane	50	55.2	110	57.1	114	3	70-130/25
563-58-6	1,1-Dichloropropene	50	55.3	111	57.7	115	4	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-BS	M53323.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MSM1813-BSD	M53324.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	46.3	93	47.3	95	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	50.5	101	2	70-130/25
123-91-1	1,4-Dioxane	250	308	123	309	124	0	70-130/25
97-63-2	Ethyl methacrylate	50	52.5	105	53.1	106	1	76-141/25
100-41-4	Ethylbenzene	50	47.5	95	50.6	101	6	70-130/25
87-68-3	Hexachlorobutadiene	50	49.5	99	52.1	104	5	70-130/25
591-78-6	2-Hexanone	50	56.9	114	58.3	117	2	70-130/25
98-82-8	Isopropylbenzene	50	44.1	88	47.5	95	7	70-130/25
99-87-6	p-Isopropyltoluene	50	48.4	97	52.1	104	7	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	47.6	95	46.3	93	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	55.9	112	56.0	112	0	70-130/25
74-95-3	Methylene bromide	50	48.6	97	49.7	99	2	70-130/25
75-09-2	Methylene chloride	50	46.2	92	46.6	93	1	70-130/25
91-20-3	Naphthalene	50	54.0	108	54.3	109	1	70-130/25
103-65-1	n-Propylbenzene	50	44.2	88	47.4	95	7	70-130/25
100-42-5	Styrene	50	45.0	90	47.2	94	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	45.9	92	47.5	95	3	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	45.7	91	46.2	92	1	70-130/25
127-18-4	Tetrachloroethene	50	51.2	102	55.6	111	8	70-130/25
108-88-3	Toluene	50	51.8	104	54.1	108	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	45.9	92	47.7	95	4	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	45.7	91	48.0	96	5	70-130/25
71-55-6	1,1,1-Trichloroethane	50	55.0	110	56.7	113	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	47.0	94	47.8	96	2	70-130/25
79-01-6	Trichloroethene	50	51.5	103	54.4	109	5	70-130/25
75-69-4	Trichlorofluoromethane	50	63.0	126	65.9	132* [a]	4	70-130/25
96-18-4	1,2,3-Trichloropropane	50	47.6	95	48.8	98	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	44.7	89	47.9	96	7	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	44.8	90	48.1	96	7	70-130/25
108-05-4	Vinyl Acetate	50	50.4	101	45.1	90	11	70-130/25
75-01-4	Vinyl chloride	50	59.9	120	63.7	127	6	70-130/25
	m,p-Xylene	100	94.1	94	101	101	7	70-130/25
95-47-6	o-Xylene	50	45.6	91	47.7	95	5	70-130/25
1330-20-7	Xylene (total)	150	140	93	148	99	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1813-BS	M53323.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MSM1813-BSD	M53324.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	86%	85%	70-130%
2037-26-5	Toluene-D8	88%	90%	70-130%
460-00-4	4-Bromofluorobenzene	79%	81%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	68.5	137* [a]	59.4	119	14	70-130/25
107-02-8	Acrolein	250	257	103	260	104	1	70-130/25
107-13-1	Acrylonitrile	50	56.6	113	57.5	115	2	70-130/25
71-43-2	Benzene	50	52.3	105	53.6	107	2	70-130/25
108-86-1	Bromobenzene	50	52.5	105	53.2	106	1	70-130/25
74-97-5	Bromochloromethane	50	55.3	111	55.9	112	1	70-130/25
75-27-4	Bromodichloromethane	50	51.0	102	52.0	104	2	70-130/25
75-25-2	Bromoform	50	45.9	92	46.5	93	1	70-130/25
74-83-9	Bromomethane	50	53.6	107	54.8	110	2	70-130/25
78-93-3	2-Butanone (MEK)	50	57.2	114	54.7	109	4	70-130/25
104-51-8	n-Butylbenzene	50	56.5	113	57.2	114	1	70-130/25
135-98-8	sec-Butylbenzene	50	51.6	103	52.3	105	1	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	51.2	102	2	70-130/25
75-15-0	Carbon disulfide	50	55.8	112	57.0	114	2	70-130/25
56-23-5	Carbon tetrachloride	50	52.7	105	54.0	108	2	70-130/25
108-90-7	Chlorobenzene	50	48.2	96	49.3	99	2	70-130/25
75-00-3	Chloroethane	50	54.6	109	54.9	110	1	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	21.1	42* [a]	21.7	43* [a]	3	70-130/25
67-66-3	Chloroform	50	56.4	113	57.4	115	2	70-130/25
74-87-3	Chloromethane	50	59.5	119	61.2	122	3	70-130/25
95-49-8	o-Chlorotoluene	50	50.0	100	50.6	101	1	70-130/25
106-43-4	p-Chlorotoluene	50	51.6	103	52.1	104	1	70-130/25
124-48-1	Dibromochloromethane	50	45.7	91	46.1	92	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	48.8	98	49.4	99	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	49.4	99	49.8	100	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.1	100	50.8	102	1	70-130/25
75-71-8	Dichlorodifluoromethane	50	81.3	163* [a]	86.0	172* [a]	6	70-130/25
75-34-3	1,1-Dichloroethane	50	56.4	113	57.2	114	1	70-130/25
107-06-2	1,2-Dichloroethane	50	55.6	111	56.9	114	2	70-130/25
75-35-4	1,1-Dichloroethene	50	56.9	114	58.8	118	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	53.2	106	54.1	108	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	54.3	109	55.3	111	2	70-130/25
78-87-5	1,2-Dichloropropane	50	55.5	111	56.7	113	2	70-130/25
142-28-9	1,3-Dichloropropane	50	51.4	103	52.5	105	2	70-130/25
594-20-7	2,2-Dichloropropane	50	69.9	140* [a]	71.3	143* [a]	2	70-130/25
563-58-6	1,1-Dichloropropene	50	54.9	110	57.1	114	4	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

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	48.8	98	50.0	100	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	51.2	102	52.5	105	3	70-130/25
123-91-1	1,4-Dioxane	250	262	105	261	104	0	70-130/25
97-63-2	Ethyl methacrylate	50	51.0	102	51.9	104	2	77-137/25
100-41-4	Ethylbenzene	50	52.3	105	53.4	107	2	70-130/25
87-68-3	Hexachlorobutadiene	50	55.4	111	57.4	115	4	70-130/25
591-78-6	2-Hexanone	50	51.8	104	51.2	102	1	70-130/25
98-82-8	Isopropylbenzene	50	51.3	103	52.0	104	1	70-130/25
99-87-6	p-Isopropyltoluene	50	56.6	113	57.7	115	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	53.7	107	54.7	109	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.3	101	52.1	104	4	70-130/25
74-95-3	Methylene bromide	50	57.3	115	58.0	116	1	70-130/25
75-09-2	Methylene chloride	50	53.3	107	54.1	108	1	70-130/25
91-20-3	Naphthalene	50	52.6	105	55.7	111	6	70-130/25
103-65-1	n-Propylbenzene	50	52.5	105	52.8	106	1	70-130/25
100-42-5	Styrene	50	47.8	96	48.7	97	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	47.0	94	48.0	96	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	50.0	100	50.9	102	2	70-130/25
127-18-4	Tetrachloroethene	50	51.0	102	52.4	105	3	70-130/25
108-88-3	Toluene	50	55.0	110	56.6	113	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	56.6	113	62.9	126	11	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	54.8	110	57.9	116	6	70-130/25
71-55-6	1,1,1-Trichloroethane	50	59.9	120	62.0	124	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	55.8	112	57.0	114	2	70-130/25
79-01-6	Trichloroethene	50	54.1	108	55.6	111	3	70-130/25
75-69-4	Trichlorofluoromethane	50	54.9	110	55.9	112	2	70-130/25
96-18-4	1,2,3-Trichloropropane	50	49.4	99	50.3	101	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	52.3	105	52.7	105	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	52.9	106	53.3	107	1	70-130/25
108-05-4	Vinyl Acetate	50	58.0	116	59.0	118	2	70-130/25
75-01-4	Vinyl chloride	50	50.4	101	51.6	103	2	70-130/25
	m,p-Xylene	100	101	101	103	103	2	70-130/25
95-47-6	o-Xylene	50	49.8	100	51.2	102	3	70-130/25
1330-20-7	Xylene (total)	150	151	101	154	103	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	101%	70-130%
2037-26-5	Toluene-D8	103%	103%	70-130%
460-00-4	4-Bromofluorobenzene	95%	94%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-3MS	G123507.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3MSD	G123508.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3	G123498.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	MC17324-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	490	J	5180	6100	108	5180	6450	115	6	70-130/30
107-02-8	Acrolein	ND		25900	18400	71	25900	18000	70	2	70-130/30
107-13-1	Acrylonitrile	ND		5180	5290	102	5180	5280	102	0	70-130/30
71-43-2	Benzene	25000		5180	27700	52* [a]	5180	27200	42* [a]	2	70-130/30
108-86-1	Bromobenzene	ND		5180	5370	104	5180	5260	102	2	70-130/30
74-97-5	Bromochloromethane	ND		5180	5530	107	5180	5460	105	1	70-130/30
75-27-4	Bromodichloromethane	ND		5180	5310	103	5180	5270	102	1	70-130/30
75-25-2	Bromoform	ND		5180	5030	97	5180	5150	99	2	70-130/30
74-83-9	Bromomethane	ND		5180	5500	106	5180	5410	104	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		5180	6060	117	5180	6140	119	1	70-130/30
104-51-8	n-Butylbenzene	141	J	5180	5380	101	5180	5200	98	3	70-130/30
135-98-8	sec-Butylbenzene	30.8	J	5180	5030	97	5180	4910	94	2	70-130/30
98-06-6	tert-Butylbenzene	ND		5180	4300	83	5180	4280	83	0	70-130/30
75-15-0	Carbon disulfide	ND		5180	5430	105	5180	5280	102	3	70-130/30
56-23-5	Carbon tetrachloride	ND		5180	5120	99	5180	5050	98	1	70-130/30
108-90-7	Chlorobenzene	ND		5180	5090	98	5180	5070	98	0	70-130/30
75-00-3	Chloroethane	ND		5180	5450	105	5180	5420	105	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		5180	2450	47	5180	2490	48	2	10-160/30
67-66-3	Chloroform	ND		5180	5300	102	5180	5160	100	3	70-130/30
74-87-3	Chloromethane	ND		5180	6230	120	5180	6080	117	2	70-130/30
95-49-8	o-Chlorotoluene	ND		5180	5000	97	5180	4820	93	4	70-130/30
106-43-4	p-Chlorotoluene	ND		5180	5090	98	5180	5020	97	1	70-130/30
124-48-1	Dibromochloromethane	ND		5180	5430	105	5180	5400	104	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		5180	5110	99	5180	5030	97	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		5180	5120	99	5180	5030	97	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		5180	5410	104	5180	5300	102	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		5180	7710	149* [b]	5180	7400	143* [b]	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		5180	5400	104	5180	5270	102	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		5180	5960	115	5180	5920	114	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		5180	5780	112	5180	5810	112	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		5180	5310	103	5180	5120	99	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		5180	5450	105	5180	5300	102	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		5180	5230	101	5180	5160	100	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		5180	5300	102	5180	5280	102	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		5180	5500	106	5180	5260	102	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		5180	5140	99	5180	5060	98	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-3MS	G123507.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3MSD	G123508.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3	G123498.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	MC17324-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		5180	5190	100	5180	5180	100	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		5180	5510	106	5180	5530	107	0	70-130/30
123-91-1	1,4-Dioxane	ND		25900	16300	63* b	25900	17900	69* b	9	70-130/30
97-63-2	Ethyl methacrylate	ND		5180	5390	104	5180	5310	103	1	41-160/30
100-41-4	Ethylbenzene	298		5180	5560	102	5180	5480	100	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		5180	4980	96	5180	5060	98	2	70-130/30
591-78-6	2-Hexanone	ND		5180	5610	108	5180	5580	108	1	70-130/30
98-82-8	Isopropylbenzene	50.8	J	5180	5050	97	5180	4920	94	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		5180	5520	107	5180	5390	104	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		5180	5610	108	5180	5620	109	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5180	4250	82	5180	4270	82	0	70-130/30
74-95-3	Methylene bromide	ND		5180	5300	102	5180	5280	102	0	70-130/30
75-09-2	Methylene chloride	ND		5180	5560	107	5180	5440	105	2	70-130/30
91-20-3	Naphthalene	230	J	5180	5220	96	5180	5340	99	2	70-130/30
103-65-1	n-Propylbenzene	214	J	5180	5220	97	5180	5040	93	4	70-130/30
100-42-5	Styrene	ND		5180	5140	99	5180	5090	98	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		5180	5270	102	5180	5170	100	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		5180	5500	106	5180	5480	106	0	70-130/30
127-18-4	Tetrachloroethene	ND		5180	5380	104	5180	5280	102	2	70-130/30
108-88-3	Toluene	141	J	5180	5300	100	5180	5210	98	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		5180	4550	88	5180	4620	89	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		5180	4970	96	5180	4980	96	0	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		5180	5080	98	5180	4950	96	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		5180	5420	105	5180	5310	103	2	70-130/30
79-01-6	Trichloroethene	ND		5180	5290	102	5180	5090	98	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		5180	5540	107	5180	5480	106	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		5180	5500	106	5180	5420	105	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	975		5180	6130	100	5180	5980	97	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	293	J	5180	5430	99	5180	5250	96	3	70-130/30
108-05-4	Vinyl Acetate	ND		5180	6220	120	5180	6250	121	0	70-130/30
75-01-4	Vinyl chloride	ND		5180	3940	76	5180	4020	78	2	70-130/30
	m,p-Xylene	706		10400	11100	100	10400	10900	98	2	70-130/30
95-47-6	o-Xylene	189	J	5180	5310	99	5180	5270	98	1	70-130/30
1330-20-7	Xylene (total)	895		15500	16400	100	15500	16100	98	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-3MS	G123507.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3MSD	G123508.D	1	01/08/13	JM	n/a	n/a	MSG4905
MC17324-3	G123498.D	1	01/08/13	JM	n/a	n/a	MSG4905

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Surrogate Recoveries	MS	MSD	MC17324-3	Limits
1868-53-7	Dibromofluoromethane	92%	90%	95%	70-130%
2037-26-5	Toluene-D8	86%	84%	91%	70-130%
460-00-4	4-Bromofluorobenzene	86%	83%	88%	70-130%

(a) Outside control limits due to high level in sample relative to spike amount.
(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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-1MS	M53334.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1MSD	M53335.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1	M53337.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-1

CAS No.	Compound	MC17324-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		159	513	323* [a]	63.2	110	174* [a]	129* [b]	70-130/30
107-02-8	Acrolein	ND		794	909	114	316	259	82	111* [b]	70-130/30
107-13-1	Acrylonitrile	ND		159	146	92	63.2	74.3	118	65* [b]	70-130/30
71-43-2	Benzene	45.8		159	4800	2993* [c]	63.2	515	742* [c]	161* [c]	70-130/30
108-86-1	Bromobenzene	ND		159	129	81	63.2	44.9	71	97* [c]	70-130/30
74-97-5	Bromochloromethane	ND		159	162	102	63.2	66.1	105	84* [b]	70-130/30
75-27-4	Bromodichloromethane	ND		159	149	94	63.2	60.5	96	84* [b]	70-130/30
75-25-2	Bromoform	ND		159	104	65* [a]	63.2	54.6	86	62* [b]	70-130/30
74-83-9	Bromomethane	ND		159	205	129	63.2	67.9	107	100* [b]	70-130/30
78-93-3	2-Butanone (MEK)	ND		159	176	111	63.2	81.0	128	74* [b]	70-130/30
104-51-8	n-Butylbenzene	ND		159	188	118	63.2	47.9	76	119* [b]	70-130/30
135-98-8	sec-Butylbenzene	ND		159	205	129	63.2	52.4	83	119* [b]	70-130/30
98-06-6	tert-Butylbenzene	ND		159	189	119	63.2	51.5	81	114* [b]	70-130/30
75-15-0	Carbon disulfide	ND		159	218	137* [a]	63.2	71.3	113	101* [b]	70-130/30
56-23-5	Carbon tetrachloride	ND		159	195	123	63.2	64.1	101	101* [b]	70-130/30
108-90-7	Chlorobenzene	ND		159	136	86	63.2	47.1	74	97* [b]	70-130/30
75-00-3	Chloroethane	ND		159	208	131* [a]	63.2	68.9	109	100* [b]	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		159	258	162* [a]	63.2	58.5	93	126* [b]	10-160/30
67-66-3	Chloroform	ND		159	168	106	63.2	60.6	96	94* [b]	70-130/30
74-87-3	Chloromethane	ND		159	254	160* [a]	63.2	82.8	131* [a]	102* [b]	70-130/30
95-49-8	o-Chlorotoluene	ND		159	149	94	63.2	44.2	70	108* [b]	70-130/30
106-43-4	p-Chlorotoluene	ND		159	148	93	63.2	43.9	69* [a]	108* [b]	70-130/30
124-48-1	Dibromochloromethane	ND		159	130	82	63.2	57.0	90	78* [b]	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		159	91.8	58* [a]	63.2	33.6	53* [a]	93* [b]	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		159	119	75	63.2	38.1	60* [a]	103* [b]	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		159	116	73	63.2	38.1	60* [a]	101* [b]	70-130/30
75-71-8	Dichlorodifluoromethane	ND		159	310	195* [a]	63.2	97.7	155* [a]	104* [b]	70-130/30
75-34-3	1,1-Dichloroethane	ND		159	182	115	63.2	62.1	98	98* [b]	70-130/30
107-06-2	1,2-Dichloroethane	ND		159	160	101	63.2	65.0	103	84* [b]	70-130/30
75-35-4	1,1-Dichloroethene	ND		159	213	134* [a]	63.2	69.3	110	102* [b]	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		159	165	104	63.2	59.5	94	94* [b]	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		159	190	120	63.2	63.6	101	100* [b]	70-130/30
78-87-5	1,2-Dichloropropane	ND		159	153	96	63.2	57.4	91	91* [b]	70-130/30
142-28-9	1,3-Dichloropropane	ND		159	138	87	63.2	58.7	93	81* [b]	70-130/30
594-20-7	2,2-Dichloropropane	ND		159	194	122	63.2	63.2	100	102* [b]	70-130/30
563-58-6	1,1-Dichloropropene	ND		159	200	126	63.2	64.3	102	103* [b]	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-1MS	M53334.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1MSD	M53335.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1	M53337.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-1

CAS No.	Compound	MC17324-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		159	142	89	63.2	56.8	90	86* b	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		159	145	91	63.2	63.7	101	78* b	70-130/30
123-91-1	1,4-Dioxane	ND		794	1080	136* a	316	445	141* a	83* b	70-130/30
97-63-2	Ethyl methacrylate	ND		159	163	103	63.2	69.4	110	81* b	41-160/30
100-41-4	Ethylbenzene	2.2	J	159	173	108	63.2	55.0	84	104* b	70-130/30
87-68-3	Hexachlorobutadiene	ND		159	174	110	63.2	46.8	74	115* b	70-130/30
591-78-6	2-Hexanone	ND		159	181	114	63.2	91.1	144* a	66* b	70-130/30
98-82-8	Isopropylbenzene	ND		159	200	126	63.2	53.0	84	116* b	70-130/30
99-87-6	p-Isopropyltoluene	ND		159	197	124	63.2	52.3	83	116* b	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		159	145	91	63.2	61.2	97	81* b	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		159	183	115	63.2	82.6	131* a	76* b	70-130/30
74-95-3	Methylene bromide	ND		159	149	94	63.2	65.6	104	78* b	70-130/30
75-09-2	Methylene chloride	ND		159	159	100	63.2	58.6	93	92* b	70-130/30
91-20-3	Naphthalene	ND		159	59.1	37* a	63.2	29.3	46* a	67* b	70-130/30
103-65-1	n-Propylbenzene	ND		159	195	123	63.2	50.8	80	117* b	70-130/30
100-42-5	Styrene	ND		159	124	78	63.2	44.6	71	94* b	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		159	144	91	63.2	52.8	84	93* b	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		159	132	83	63.2	60.7	96	74* b	70-130/30
127-18-4	Tetrachloroethene	ND		159	194	122	63.2	59.1	93	107* b	70-130/30
108-88-3	Toluene	2.8	J	159	174	108	63.2	60.6	91	97* b	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		159	50.9	32* a	63.2	24.3	38* a	71* b	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		159	71.6	45* a	63.2	27.9	44* a	88* b	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		159	192	121	63.2	63.0	100	101* b	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		159	145	91	63.2	62.4	99	80* b	70-130/30
79-01-6	Trichloroethene	ND		159	180	113	63.2	60.7	96	99* b	70-130/30
75-69-4	Trichlorofluoromethane	ND		159	231	145* a	63.2	73.8	117	103* b	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		159	138	87	63.2	65.3	103	72* b	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		159	172	108	63.2	47.1	74	114* b	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		159	180	113	63.2	49.2	78	114* b	70-130/30
108-05-4	Vinyl Acetate	ND		159	241	152* a	63.2	59.5	94	121* b	70-130/30
75-01-4	Vinyl chloride	ND		159	230	145* a	63.2	72.3	114	104* b	70-130/30
	m,p-Xylene	ND		318	324	102	126	104	82	103* b	70-130/30
95-47-6	o-Xylene	ND		159	143	90	63.2	48.9	77	98* b	70-130/30
1330-20-7	Xylene (total)	0.78	J	477	467	98	190	153	80	101* b	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17324-1MS	M53334.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1MSD	M53335.D	1	01/09/13	AMY	n/a	n/a	MSM1813
MC17324-1	M53337.D	1	01/09/13	AMY	n/a	n/a	MSM1813

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-1

CAS No.	Surrogate Recoveries	MS	MSD	MC17324-1	Limits
1868-53-7	Dibromofluoromethane	89%	85%	85%	70-130%
2037-26-5	Toluene-D8	87%	88%	89%	70-130%
460-00-4	4-Bromofluorobenzene	93%	85%	81%	70-130%

(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.
(c) High recovery/RPD due to possible nonhomogeneity between sample bottles.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17363-1MS	G123527.D	1	01/09/13	JM	n/a	n/a	MSG4906
MC17363-1MSD	G123528.D	1	01/09/13	JM	n/a	n/a	MSG4906
MC17363-1	G123515.D	1	01/09/13	JM	n/a	n/a	MSG4906

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-2, MC17324-4, MC17324-5

CAS No.	Compound	MC17363-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		1460	1480	101	1460	1470	100	1	70-130/30
103-65-1	n-Propylbenzene	ND		1460	1400	96	1460	1400	96	0	70-130/30
108-88-3	Toluene	ND		1460	1500	102	1460	1490	102	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		1460	1440	98	1460	1460	100	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		1460	1440	98	1460	1440	98	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC17363-1	Limits
1868-53-7	Dibromofluoromethane	85%	85%	87%	70-130%
2037-26-5	Toluene-D8	81%	81%	82%	70-130%
460-00-4	4-Bromofluorobenzene	83%	84%	81%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-7

CAS No.	Compound	MC17371-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	52.6	105	50	52.7	105	0	70-130/30
107-02-8	Acrolein	ND		250	239	96	250	234	94	2	70-130/30
107-13-1	Acrylonitrile	ND		50	59.0	118	50	56.4	113	5	70-130/30
71-43-2	Benzene	ND		50	53.9	108	50	52.5	105	3	70-130/30
108-86-1	Bromobenzene	ND		50	52.7	105	50	52.1	104	1	70-130/30
74-97-5	Bromochloromethane	ND		50	56.2	112	50	55.3	111	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	51.9	104	50	51.4	103	1	70-130/30
75-25-2	Bromoform	ND		50	45.0	90	50	44.7	89	1	70-130/30
74-83-9	Bromomethane	ND		50	56.6	113	50	54.2	108	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	50.1	100	50	50.4	101	1	70-130/30
104-51-8	n-Butylbenzene	ND		50	54.1	108	50	54.1	108	0	70-130/30
135-98-8	sec-Butylbenzene	ND		50	49.8	100	50	49.2	98	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	49.3	99	50	48.6	97	1	70-130/30
75-15-0	Carbon disulfide	ND		50	56.2	112	50	54.6	109	3	70-130/30
56-23-5	Carbon tetrachloride	ND		50	54.2	108	50	53.0	106	2	70-130/30
108-90-7	Chlorobenzene	ND		50	48.6	97	50	47.5	95	2	70-130/30
75-00-3	Chloroethane	ND		50	57.4	115	50	54.5	109	5	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	58.6	117	50	56.8	114	3	70-130/30
74-87-3	Chloromethane	ND		50	60.6	121	50	60.7	121	0	70-130/30
95-49-8	o-Chlorotoluene	ND		50	49.8	100	50	49.2	98	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	51.8	104	50	51.1	102	1	70-130/30
124-48-1	Dibromochloromethane	ND		50	45.5	91	50	45.0	90	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	47.9	96	50	48.5	97	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	48.7	97	50	48.8	98	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	49.9	100	50	49.7	99	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	90.7	181* [a]	50	84.8	170* [a]	7	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	57.9	116	50	56.3	113	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	58.4	117	50	57.2	114	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	58.9	118	50	56.3	113	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	54.6	109	50	53.4	107	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	55.4	111	50	53.6	107	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	57.1	114	50	56.3	113	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	52.2	104	50	51.9	104	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	66.1	132* [a]	50	65.8	132* [a]	0	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	57.9	116	50	55.5	111	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17324-7

CAS No.	Compound	MC17371-4 ug/l	Q	Spike 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	48.3	97	50	48.3	97	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	51.1	102	50	51.1	102	0	70-130/30
123-91-1	1,4-Dioxane	ND		250	257	103	250	254	102	1	70-130/30
97-63-2	Ethyl methacrylate	ND		50	52.1	104	50	51.8	104	1	72-139/30
100-41-4	Ethylbenzene	ND		50	53.0	106	50	51.4	103	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	48.2	96	50	52.9	106	9	70-130/30
591-78-6	2-Hexanone	ND		50	49.1	98	50	48.3	97	2	70-130/30
98-82-8	Isopropylbenzene	ND		50	50.7	101	50	49.9	100	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	54.7	109	50	54.5	109	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	53.2	106	50	53.7	107	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	51.2	102	50	51.0	102	0	70-130/30
74-95-3	Methylene bromide	ND		50	58.8	118	50	57.9	116	2	70-130/30
75-09-2	Methylene chloride	ND		50	55.0	110	50	53.7	107	2	70-130/30
91-20-3	Naphthalene	ND		50	40.5	81	50	54.0	108	29	70-130/30
103-65-1	n-Propylbenzene	ND		50	51.7	103	50	50.5	101	2	70-130/30
100-42-5	Styrene	ND		50	47.9	96	50	47.1	94	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	47.1	94	50	46.4	93	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	50.7	101	50	50.9	102	0	70-130/30
127-18-4	Tetrachloroethene	ND		50	50.7	101	50	49.5	99	2	70-130/30
108-88-3	Toluene	ND		50	57.0	114	50	55.5	111	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	39.8	80	50	57.3	115	36* b	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	45.7	91	50	54.3	109	17	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	61.1	122	50	59.8	120	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	57.8	116	50	56.8	114	2	70-130/30
79-01-6	Trichloroethene	ND		50	55.8	112	50	53.9	108	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	60.1	120	50	57.0	114	5	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	52.7	105	50	52.9	106	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	51.3	103	50	50.8	102	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	51.9	104	50	51.1	102	2	70-130/30
108-05-4	Vinyl Acetate	ND		50	57.5	115	50	56.2	112	2	70-130/30
75-01-4	Vinyl chloride	ND		50	52.9	106	50	50.6	101	4	70-130/30
	m,p-Xylene	ND		100	101	101	100	98.7	99	2	70-130/30
95-47-6	o-Xylene	ND		50	49.8	100	50	48.6	97	2	70-130/30
1330-20-7	Xylene (total)	ND		150	151	101	150	147	98	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17324-7

CAS No.	Surrogate Recoveries	MS	MSD	MC17371-4	Limits
1868-53-7	Dibromofluoromethane	103%	104%	99%	70-130%
2037-26-5	Toluene-D8	104%	104%	102%	70-130%
460-00-4	4-Bromofluorobenzene	94%	95%	94%	70-130%

(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.

Volatile Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4905-CC4894	**Injection Date:**	01/08/13
Lab File ID:	G123489.D	**Injection Time:**	08:20
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	207789	5.13	287169	6.27	140086	9.62	147746	12.25	41125	3.10
Upper Limit [a]	415578	5.63	574338	6.77	280172	10.12	295492	12.75	82250	3.60
Lower Limit [b]	103895	4.63	143585	5.77	70043	9.12	73873	11.75	20563	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4905-BS	209502	5.13	287828	6.27	143955	9.62	148331	12.25	40683	3.10
MSG4905-MB	208532	5.13	281798	6.27	139044	9.62	140743	12.25	38665	3.09
ZZZZZZ	202893	5.13	269736	6.27	133750	9.62	135579	12.25	36111	3.11
ZZZZZZ	203329	5.13	278462	6.27	137492	9.62	137703	12.25	39623	3.09
MC17324-2	205431	5.13	293627	6.27	137381	9.62	141479	12.25	38212	3.10
MC17324-3	202767	5.13	278667	6.27	137692	9.62	141718	12.25	37141	3.09
MC17324-4	220854	5.13	308092	6.27	490123[c]	9.67	183477	12.27	43062	3.10
MC17324-5	214689	5.13	298824	6.27	928453[c]	9.68	185409	12.28	44623	3.10
MC17324-6	206756	5.13	282614	6.27	142792	9.62	146290	12.25	41909	3.10
ZZZZZZ	201253	5.13	277485	6.27	253229	9.69	166422	12.26	38824	3.11
MC17324-3MS	209339	5.13	290890	6.27	142373	9.62	147859	12.25	38020	3.09
MC17324-3MSD	209536	5.13	289399	6.27	141563	9.62	150123	12.25	39906	3.09

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 due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4906-CC4894	**Injection Date:**	01/09/13
Lab File ID:	G123510.D	**Injection Time:**	08:19
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	208890	5.13	290435	6.27	141047	9.62	146277	12.25	43008	3.10
Upper Limit [a]	417780	5.63	580870	6.77	282094	10.12	292554	12.75	86016	3.60
Lower Limit [b]	104445	4.63	145218	5.77	70524	9.12	73139	11.75	21504	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4906-BS	209821	5.13	292603	6.27	142355	9.62	151891	12.25	52960	3.10
MSG4906-BSD	211668	5.13	287405	6.27	140926	9.62	150779	12.25	49713	3.10
MSG4906-MB	207988	5.13	281892	6.27	140205	9.62	143680	12.25	46317	3.10
MC17363-1	204732	5.13	277420	6.27	138574	9.62	141080	12.25	39582	3.09
MC17324-2	208521	5.13	286091	6.27	137228	9.62	138530	12.25	44089	3.09
MC17324-4	212059	5.13	289672	6.27	154910	9.63	146308	12.25	42474	3.09
MC17324-5	207895	5.13	285459	6.27	156326	9.63	145150	12.25	44010	3.09
ZZZZZZ	203606	5.13	275484	6.27	137767	9.62	144147	12.25	42949	3.10
ZZZZZZ	202087	5.13	275446	6.27	138109	9.62	143908	12.25	40677	3.09
ZZZZZZ	203571	5.13	276991	6.27	138124	9.62	147833	12.25	44712	3.10
ZZZZZZ	204421	5.13	279585	6.27	139577	9.62	143748	12.25	41327	3.09
MC17363-1MS	206367	5.13	279139	6.27	137617	9.62	148163	12.25	41017	3.10
MC17363-1MSD	201912	5.13	275902	6.27	135009	9.62	144770	12.25	39582	3.10

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 Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSM1813-CC1800	**Injection Date:**	01/09/13
Lab File ID:	M53323.D	**Injection Time:**	09:20
Instrument ID:	GCMSM	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	158315	9.36	221365	10.24	116360	13.52	138774	16.08	83863	6.86
Upper Limit [a]	316630	9.86	442730	10.74	232720	14.02	277548	16.58	167726	7.36
Lower Limit [b]	79158	8.86	110683	9.74	58180	13.02	69387	15.58	41932	6.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSM1813-BS	158315	9.36	221365	10.24	116360	13.52	138774	16.08	83863	6.86
MSM1813-BSD	159965	9.36	221495	10.24	115270	13.52	137181	16.08	78108	6.86
MSM1813-MB	168538	9.36	227919	10.24	112504	13.52	136428	16.08	41352[c]	6.86
ZZZZZZ	170683	9.36	232977	10.24	116537	13.52	143359	16.08	64453	6.86
ZZZZZZ	168671	9.36	234602	10.24	117480	13.52	142162	16.08	63739	6.86
ZZZZZZ	175331	9.36	240698	10.24	119403	13.52	146433	16.08	67731	6.86
ZZZZZZ	164037	9.36	227281	10.24	115572	13.52	142043	16.08	70564	6.86
MC17324-1MS	145979	9.36	199979	10.24	97764	13.52	93384	16.08	84630	6.86
MC17324-1MSD	167426	9.36	231083	10.24	119074	13.52	132246	16.08	76137	6.86
MC17324-1	162375	9.36	224461	10.24	112810	13.52	135298	16.08	72876	6.86
ZZZZZZ	174608	9.36	239651	10.24	117866	13.52	145773	16.08	70625	6.86
ZZZZZZ	149959	9.35	205304	10.24	102344	13.52	121645	16.08	51648	6.85
ZZZZZZ	161133	9.36	222445	10.24	109187	13.52	120928	16.08	67810	6.85
ZZZZZZ	166508	9.36	229380	10.24	110392	13.52	132213	16.08	47181	6.86
ZZZZZZ	166209	9.36	227525	10.24	112044	13.52	137161	16.08	55474	6.86
ZZZZZZ	169265	9.36	228568	10.24	112675	13.52	135981	16.08	47684	6.86
ZZZZZZ	166894	9.36	226937	10.24	112070	13.52	137575	16.08	43103	6.85
ZZZZZZ	162443	9.36	221122	10.24	109054	13.52	133378	16.08	40571[c]	6.86
ZZZZZZ	159465	9.36	221039	10.24	109073	13.52	131418	16.08	39951[c]	6.86
ZZZZZZ	159451	9.36	215366	10.24	106483	13.52	131187	16.08	37543[c]	6.85
ZZZZZZ	163914	9.36	221263	10.24	108511	13.52	131686	16.08	38794[c]	6.86
ZZZZZZ	158908	9.36	215680	10.24	105852	13.52	129186	16.08	39892[c]	6.86
ZZZZZZ	162160	9.36	218584	10.24	106964	13.52	130703	16.08	40378[c]	6.87
ZZZZZZ	162965	9.36	225258	10.24	111427	13.52	134387	16.08	42091	6.86
ZZZZZZ	162593	9.36	219113	10.24	106763	13.52	129994	16.08	38885*	6.86
ZZZZZZ	162429	9.36	220617	10.24	107862	13.52	132236	16.08	39905*	6.86
ZZZZZZ	159673	9.36	217086	10.24	107324	13.52	130508	16.08	36793*	6.86
ZZZZZZ	156530	9.36	212785	10.24	104778	13.52	127743	16.08	37836*	6.85
ZZZZZZ	157362	9.36	213086	10.24	104412	13.52	129922	16.08	35767*	6.85
ZZZZZZ	157585	9.36	216530	10.24	106276	13.52	129081	16.08	37697*	6.86
ZZZZZZ	156746	9.36	215757	10.24	106646	13.52	131278	16.08	40127*	6.86
ZZZZZZ	158158	9.36	215569	10.24	104631	13.52	127179	16.08	37794*	6.86
ZZZZZZ	156807	9.35	215298	10.24	105612	13.52	130860	16.08	40945*	6.86
ZZZZZZ	158003	9.36	214848	10.24	106361	13.52	131625	16.08	40551*	6.86
ZZZZZZ	159588	9.36	215332	10.24	106637	13.51	131541	16.08	38410*	6.85

Volatile Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSM1813-CC1800	Injection Date:	01/09/13
Lab File ID:	M53323.D	Injection Time:	09:20
Instrument ID:	GCMSM	Method:	SW846 8260B

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
ZZZZZZ	161771	9.36	219633	10.24	108760	13.52	133357	16.08	35162*	6.86
ZZZZZZ	159912	9.36	218443	10.24	108521	13.52	133239	16.08	38552*	6.86
ZZZZZZ	161644	9.36	222851	10.24	108511	13.52	133006	16.08	38611*	6.86
ZZZZZZ	161353	9.36	217667	10.24	106582	13.52	132243	16.08	37369*	6.86
ZZZZZZ	156016	9.35	213582	10.24	105726	13.52	129655	16.08	38384*	6.85

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. Target analytes not associated with this internal standard.

Volatile Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSV612-CC595	**Injection Date:**	01/10/13
Lab File ID:	V15124.D	**Injection Time:**	09:41
Instrument ID:	GCMSV	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	329636	6.49	565800	7.69	311842	11.05	267114	13.30	66924	3.45
Upper Limit [a]	659272	6.99	1131600	8.19	623684	11.55	534228	13.80	133848	3.95
Lower Limit [b]	164818	5.99	282900	7.19	155921	10.55	133557	12.80	33462	2.95

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV612-BS	331452	6.50	568033	7.69	313951	11.05	271317	13.29	72884	3.46
MSV612-BSD	335115	6.50	570296	7.69	315080	11.05	275843	13.29	77144	3.46
MSV612-MB	322569	6.49	559751	7.69	306154	11.06	254917	13.29	71461	3.46
MC17324-7	311596	6.50	541122	7.69	296385	11.05	245660	13.29	65833	3.46
ZZZZZZ	313664	6.49	546706	7.69	299253	11.05	249262	13.29	68657	3.46
ZZZZZZ	310904	6.49	546524	7.69	298148	11.05	247384	13.29	68095	3.45
ZZZZZZ	310575	6.49	544460	7.69	298983	11.05	248313	13.29	66175	3.45
ZZZZZZ	303490	6.50	535036	7.69	292554	11.05	241899	13.29	64475	3.46
MC17371-4	303028	6.49	530951	7.69	295599	11.05	243381	13.29	64473	3.46
ZZZZZZ	304253	6.49	531984	7.69	294959	11.05	241069	13.29	63826	3.46
ZZZZZZ	299333	6.49	526501	7.69	292248	11.05	241063	13.29	66953	3.46
ZZZZZZ	297009	6.49	520174	7.69	291955	11.05	238184	13.29	63123	3.46
ZZZZZZ	296357	6.49	516081	7.68	288070	11.05	236624	13.29	63373	3.45
ZZZZZZ	295143	6.49	516046	7.69	288867	11.05	237694	13.29	64653	3.46
MC17371-4MS	313277	6.48	536715	7.68	301409	11.05	260825	13.29	68786	3.45
MC17371-4MSD	317628	6.49	542829	7.68	304766	11.05	261510	13.29	70968	3.45
ZZZZZZ	306551	6.48	535505	7.68	298029	11.05	247093	13.29	64472	3.44
ZZZZZZ	299888	6.49	525266	7.68	292442	11.05	240526	13.29	63040	3.45
ZZZZZZ	303354	6.48	526560	7.68	291864	11.05	241172	13.29	64955	3.45
ZZZZZZ	299340	6.48	521470	7.68	292481	11.05	244415	13.29	56899	3.45
ZZZZZZ	305003	6.48	522929	7.68	291770	11.05	239756	13.29	56584	3.44
ZZZZZZ	253521	6.48	434626	7.68	228720	11.05	183931	13.29	49421	3.45
ZZZZZZ	248736	6.48	431947	7.68	228186	11.05	185969	13.29	51856	3.45
ZZZZZZ	252607	6.48	437886	7.68	228977	11.05	187547	13.29	52460	3.44
ZZZZZZ	252147	6.49	433197	7.68	228343	11.05	188229	13.29	49317	3.45
ZZZZZZ	264216	6.49	453491	7.68	238629	11.05	196485	13.29	53657	3.45
ZZZZZZ	261608	6.48	444235	7.68	231911	11.05	193719	13.29	49863	3.44
ZZZZZZ	254184	6.49	436859	7.68	230296	11.05	186241	13.29	50157	3.45
ZZZZZZ	253030	6.49	435199	7.68	227437	11.05	184341	13.29	49844	3.45
ZZZZZZ	248513	6.48	432024	7.68	227468	11.05	186066	13.29	51534	3.45
ZZZZZZ	252915	6.49	439228	7.68	231269	11.05	189036	13.29	50109	3.45
ZZZZZZ	248161	6.49	427475	7.68	226543	11.05	184408	13.29	48392	3.45
ZZZZZZ	245678	6.49	429871	7.68	225847	11.05	183058	13.29	51299	3.46
ZZZZZZ	242502	6.48	417392	7.68	221773	11.05	178848	13.29	48140	3.45
ZZZZZZ	240785	6.49	420738	7.68	221756	11.05	178529	13.29	48239	3.45

Volatile Internal Standard Area Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSV612-CC595	Injection Date:	01/10/13
Lab File ID:	V15124.D	Injection Time:	09:41
Instrument ID:	GCMSV	Method:	SW846 8260B

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
ZZZZZZ	248964	6.49	429352	7.68	226603	11.05	187041	13.29	49328	3.45
ZZZZZZ	249445	6.48	432300	7.68	229251	11.05	190544	13.29	53637	3.45
ZZZZZZ	254762	6.48	436748	7.68	230557	11.05	190173	13.29	45682	3.45
ZZZZZZ	251171	6.49	430853	7.68	231046	11.05	189685	13.29	50339	3.45
ZZZZZZ	253056	6.49	437192	7.68	232387	11.05	191906	13.29	50107	3.45
ZZZZZZ	252866	6.49	434793	7.68	232522	11.05	195016	13.29	52452	3.45
ZZZZZZ	261381	6.48	446440	7.68	236649	11.05	194986	13.29	49857	3.44
ZZZZZZ	265100	6.49	454862	7.69	243492	11.05	199398	13.29	55938	3.45

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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, 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
MC17324-7	V15130.D	100	103	97
MC17371-4MS	V15141.D	103	104	94
MC17371-4MSD	V15142.D	104	104	95
MSV612-BS	V15125.D	102	103	95
MSV612-BSD	V15126.D	101	103	94
MSV612-MB	V15129.D	97	101	94

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

Volatile Surrogate Recovery Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC17324-1	M53337.D	85	89	81
MC17324-2	G123497.D	88	81	81
MC17324-2	G123516.D	87	83	82
MC17324-3	G123498.D	95	91	88
MC17324-4	G123517.D	88	85	86
MC17324-4	G123499.D	86	88	98
MC17324-5	G123500.D	90	93	101
MC17324-5	G123518.D	87	84	83
MC17324-6	G123501.D	87	85	82
MC17324-1MS	M53334.D	89	87	93
MC17324-1MSD	M53335.D	85	88	85
MC17324-3MS	G123507.D	92	86	86
MC17324-3MSD	G123508.D	90	84	83
MC17363-1MS	G123527.D	85	81	83
MC17363-1MSD	G123528.D	85	81	84
MSG4905-BS	G123490.D	99	93	90
MSG4905-MB	G123493.D	97	94	92
MSG4906-BS	G123511.D	93	87	84
MSG4906-BSD	G123512.D	92	86	84
MSG4906-MB	G123514.D	97	93	89
MSM1813-BS	M53323.D	86	88	79
MSM1813-BSD	M53324.D	85	90	81
MSM1813-MB	M53326.D	81	88	80

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

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: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31638-MB	BK20506.D	1	01/08/13	AP	01/07/13	OP31638	GBK741

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

MC17324-7

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)	96%	36-173%

Method Blank Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31636-MB	BB45224.D	1	01/09/13	CZ	01/07/13	OP31636	GBB2739

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

MC17324-1, MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.5	0.96	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	122%	61-167%
460-00-4	Bromofluorobenzene (S)	122%	61-167%

Blank Spike Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31638-BS	BK20507.D	1	01/08/13	AP	01/07/13	OP31638	GBK741

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

MC17324-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.046	65	60-140
106-93-4	1,2-Dibromoethane	0.071	0.068	96	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	92%	36-173%
460-00-4	Bromofluorobenzene (S)	97%	36-173%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31636-BS	BK20534.D	1	01/08/13	AP	01/07/13	OP31636	GBK742

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

MC17324-1, MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	33.3	39.6	119	59-142
106-93-4	1,2-Dibromoethane	33.3	40.2	121	56-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	121%	61-167%
460-00-4	Bromofluorobenzene (S)	126%	61-167%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31638-MS	BK20508.D	1	01/08/13	AP	01/07/13	OP31638	GBK741
OP31638-MSD	BK20509.D	1	01/08/13	AP	01/07/13	OP31638	GBK741
MC17327-4	BK20510.D	1	01/08/13	AP	01/07/13	OP31638	GBK741

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

MC17324-7

CAS No.	Compound	MC17327-4 ug/l	Q	Spike ug/l	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	0.068	96	0.071	0.063	89	8	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.072	101	0.071	0.070	99	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17327-4	Limits
460-00-4	Bromofluorobenzene (S)	97%	95%	95%	36-173%
460-00-4	Bromofluorobenzene (S)	98%	96%	101%	36-173%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31636-MS	BK20535.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
OP31636-MSD	BK20536.D	1	01/08/13	AP	01/07/13	OP31636	GBK742
MC17324-1	BK20537.D	1	01/08/13	AP	01/07/13	OP31636	GBK742

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

MC17324-1, MC17324-2, MC17324-3, MC17324-4, MC17324-5, MC17324-6

CAS No.	Compound	MC17324-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		41.1	50.1	122	41	51.3	125	2	40-156/27
106-93-4	1,2-Dibromoethane	ND		41.1	48.2	117	41	49.5	121	3	48-141/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17324-1	Limits
460-00-4	Bromofluorobenzene (S)	127%	130%	130%	61-167%
460-00-4	Bromofluorobenzene (S)	124%	126%	123%	61-167%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17324-7	BK20511.D	128	112
OP31638-BS	BK20507.D	92	97
OP31638-MB	BK20506.D	95	96
OP31638-MS	BK20508.D	97	98
OP31638-MSD	BK20509.D	95	96

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Volatile Surrogate Recovery Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17324-1	BK20537.D	130	123
MC17324-2	BK20538.D	136	128
MC17324-3	BK20539.D	132	124
MC17324-4	BK20540.D	122	110
MC17324-5	BK20541.D	115	112
MC17324-6	BK20542.D	119	124
OP31636-BS	BK20534.D	121	126
OP31636-MB	BB45224.D	122	122
OP31636-MS	BK20535.D	127	124
OP31636-MSD	BK20536.D	130	126

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	61-167%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBB2739-ICC2739	**Injection Date:**	01/08/13
Lab File ID:	BB45218.D	**Injection Time:**	23:03
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.55	3.31

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31636-MB	BB45224.D	01/09/13	01:45	3.55	3.31
ZZZZZZ	BB45225.D	01/09/13	02:12	3.56	3.31
ZZZZZZ	BB45226.D	01/09/13	02:38	3.56	3.31
ZZZZZZ	BB45227.D	01/09/13	03:05	3.56	3.31
ZZZZZZ	BB45228.D	01/09/13	03:32	3.56	3.31
ZZZZZZ	BB45229.D	01/09/13	03:59	3.57	3.32
ZZZZZZ	BB45230.D	01/09/13	04:25	3.56	3.31
ZZZZZZ	BB45231.D	01/09/13	04:52	3.56	3.32
ZZZZZZ	BB45232.D	01/09/13	05:19	3.56	3.32
GBB2739-ECC2739	BB45233.D	01/09/13	05:46	3.56	3.31

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBK741-ICC741	**Injection Date:**	01/07/13
Lab File ID:	BK20497.D	**Injection Time:**	20:53
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.45	4.78

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK20500A.D	01/07/13	22:06	4.46	4.78
OP31628-MB	BK20502.D	01/07/13	22:55	4.45	4.78
ZZZZZZ	BK20503.D	01/07/13	23:20	0.00	0.00
ZZZZZZ	BK20504.D	01/07/13	23:44	0.00	0.00
ZZZZZZ	BK20505.D	01/08/13	00:09	0.00	0.00
OP31638-MB	BK20506.D	01/08/13	00:33	4.45	4.78
OP31638-BS	BK20507.D	01/08/13	00:58	4.45	4.78
OP31638-MS	BK20508.D	01/08/13	01:22	4.45	4.78
OP31638-MSD	BK20509.D	01/08/13	01:47	4.45	4.78
MC17327-4	BK20510.D	01/08/13	02:11	4.45	4.78
MC17324-7	BK20511.D	01/08/13	02:36	4.45	4.78
GBK741-ECC741	BK20512.D	01/08/13	03:00	4.46	4.78

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GBK742-ICC742	**Injection Date:**	01/08/13
Lab File ID:	BK20527.D	**Injection Time:**	18:32
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.43	4.69

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31636-BS	BK20534.D	01/08/13	21:23	4.43	4.69
OP31636-MS	BK20535.D	01/08/13	21:48	4.43	4.69
OP31636-MSD	BK20536.D	01/08/13	22:12	4.43	4.69
MC17324-1	BK20537.D	01/08/13	22:37	4.43	4.69
MC17324-2	BK20538.D	01/08/13	23:02	4.43	4.69
MC17324-3	BK20539.D	01/08/13	23:26	4.43	4.69
MC17324-4	BK20540.D	01/08/13	23:51	4.42	4.69
MC17324-5	BK20541.D	01/09/13	00:15	4.42	4.69
MC17324-6	BK20542.D	01/09/13	00:39	4.43	4.69

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: MC17324
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC17324-1 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-23

Wet Weight (Total)	29.552	g
Tare Weight	23.418	g
Dry Weight (Total)	28.369	g
Solids, Percent	80.7	%

Sample: MC17324-2 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-42

Wet Weight (Total)	30.944	g
Tare Weight	20.002	g
Dry Weight (Total)	29.214	g
Solids, Percent	84.2	%

Sample: MC17324-3 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-51

Wet Weight (Total)	28.248	g
Tare Weight	20.266	g
Dry Weight (Total)	27.51	g
Solids, Percent	90.8	%

Sample: MC17324-4 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-57

Wet Weight (Total)	34.247	g
Tare Weight	24.711	g
Dry Weight (Total)	33.019	g
Solids, Percent	87.1	%

Sample: MC17324-5 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-57-DUP

Wet Weight (Total)	30.912	g
Tare Weight	23.909	g
Dry Weight (Total)	29.907	g
Solids, Percent	85.6	%

Sample: MC17324-6 **Analyzed:** 08-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-77

Wet Weight (Total)	32.609	g
Tare Weight	21.712	g
Dry Weight (Total)	31.449	g
Solids, Percent	89.4	%

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e-Hardcopy 2.0
Automated Report

Technical Report for

Shell Oil

URSMOSTL: Roxana Drilling, Roxana, IL

21562850.15000

SGS Accutest Job Number: MC17401

Sampling Dates: 01/07/13 - 01/08/13

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)

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Test results relate only to samples analyzed.

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SGS ACCUTEST

October 20, 2016

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

RE: SGS Accutest Job # MC17401

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: MC17401

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC17401-1	01/07/13	10:15 WPJS	01/09/13	SO	Soil	GP-16-91
MC17401-2	01/07/13	13:25 WPJS	01/09/13	SO	Soil	GP-17-15
MC17401-3	01/07/13	13:25 WPJS	01/09/13	SO	Soil	GP-17-15 DUP
MC17401-4	01/07/13	13:55 WPJS	01/09/13	SO	Soil	GP-17-45
MC17401-5	01/07/13	14:20 WPJS	01/09/13	SO	Soil	GP-17-57
MC17401-6	01/07/13	14:35 WPJS	01/09/13	SO	Soil	GP-17-65
MC17401-7	01/07/13	00:00 WPJS	01/09/13	AQ	Trip Blank Water	TRIP BLANK
MC17401-8	01/08/13	09:30 WPJS	01/09/13	SO	Soil	GP-18-21
MC17401-8D	01/08/13	09:30 WPJS	01/09/13	SO	Soil Dup/MSD	GP-18-21
MC17401-8S	01/08/13	09:30 WPJS	01/09/13	SO	Soil Matrix Spike	GP-18-21
MC17401-9	01/08/13	10:10 WPJS	01/09/13	SO	Soil	GP-18-37
MC17401-10	01/08/13	13:25 WPJS	01/09/13	SO	Soil	GP-18-53
MC17401-11	01/08/13	14:05 WPJS	01/09/13	SO	Soil	GP-18-63

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC17401
Site:	URSMOSTL: Roxana Drilling, Roxana, IL	**Report Date**	10/24/2016 1:28:06 P

10 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on between 01/07/2013 and 01/08/2013 and were received at SGS Accutest New England on 01/09/2013 properly preserved, at 1.1 Deg. C and intact. These Samples received a job number of MC17401. 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 was 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

Matrix: AQ **Batch ID:** MSV612

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC17371-4MS, MC17371-4MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether, Acetone, Dichlorodifluoromethane are outside control limits.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether, Dichlorodifluoromethane are outside control limits. Outside control limits due to possible matrix interference.
- Matrix Spike Duplicate Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether, Dichlorodifluoromethane are outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for 1,2,3-Trichlorobenzene are outside control limits for sample MC17371-4MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC17401-7 for 2-Chloroethyl vinyl ether: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- MC17401-7 for Acrolein: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

Matrix: SO **Batch ID:** MSG4908

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC17401-8MS, MC17401-8MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2-Butanone (MEK), 2-Hexanone, Acetone, Acrolein, Dichlorodifluoromethane are outside control limits.
- Matrix Spike Recovery(s) for 1,2,3-Trichlorobenzene, 1,4-Dioxane, Dichlorodifluoromethane, Hexachlorobutadiene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 1,2,3-Trichlorobenzene, Dichlorodifluoromethane, Hexachlorobutadiene are outside control limits. Probable cause due to matrix interference.
- Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
- 2-Chloroethyl vinyl ether: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.
- Dichlorodifluoromethane, Acrolein:, Dichlorodifluoromethane: Initial Calibration Verification outside of acceptance criteria. Sample result may be biased low.

Matrix: SO **Batch ID:** MSG4909

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC17458-2MS, MC17458-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** MSM1816

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC17422-6MS, MC17422-6MSD were used as the QC samples indicated.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO	Batch ID: MSM1816

- Sample(s) MC17401-1 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- Blank Spike Recovery(s) for 1,1-Dichloroethene, Carbon disulfide, Chloromethane, Dichlorodifluoromethane, Trichlorofluoromethane are outside control limits.
- Matrix Spike Recovery(s) for 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 1,4-Dioxane, Acetone, Bromobenzene, Bromoform, Chlorobenzene, Chloromethane, cis-1,3-Dichloropropene, Dibromochloromethane, Dichlorodifluoromethane, Ethylbenzene, Hexachlorobutadiene, m,p-Xylene, n-Butylbenzene, n-Propylbenzene, Naphthalene, o-Chlorotoluene, o-Xylene, p-Chlorotoluene, p-Isopropyltoluene, Styrene, trans-1,3-Dichloropropene, Xylene (total) are outside control limits. Outside control limits due to possible matrix interference.
- Matrix Spike Duplicate Recovery(s) for 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,4-Dichlorobenzene, 2-Hexanone, Acetone, Bromobenzene, Bromoform, Chlorobenzene, cis-1,3-Dichloropropene, Dibromochloromethane, Dichlorodifluoromethane, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, m,p-Xylene, n-Butylbenzene, n-Propylbenzene, Naphthalene, o-Chlorotoluene, o-Xylene, p-Chlorotoluene, p-Isopropyltoluene, sec-Butylbenzene, Styrene, tert-Butylbenzene, trans-1,3-Dichloropropene, Xylene (total), 1,2,4-Trichlorobenzene are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for MSD for 1,2,4-Trichlorobenzene are outside control limits for sample MC17422-6MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP31715

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC17451-5MS, MC17451-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for 1,2-Dibromoethane are outside control limits for sample OP31715-MSD1. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix: SO	Batch ID: OP31685

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC17401-8MS, MC17401-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO	Batch ID: GN41499

- Sample(s) MC17401-8DUP were used as the QC samples for Solids, Percent.

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(MC17401).

Summary of Hits

Job Number: MC17401
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/07/13 thru 01/08/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC17401-1	**GP-16-91**					
Benzene		0.0488	0.00048	0.00028	mg/kg	SW846 8260B
Carbon disulfide		0.00095 J	0.0048	0.00016	mg/kg	SW846 8260B
Chloroform		0.00075 J	0.0019	0.00049	mg/kg	SW846 8260B
Ethylbenzene		0.0045	0.0019	0.00023	mg/kg	SW846 8260B
Isopropylbenzene		0.00039 J	0.0048	0.00022	mg/kg	SW846 8260B
Methylene chloride		0.0011 JB	0.0019	0.0011	mg/kg	SW846 8260B
n-Propylbenzene		0.0013 J	0.0048	0.00097	mg/kg	SW846 8260B
Toluene		0.0040 J	0.0048	0.00081	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.0047 J	0.0048	0.00021	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.0017 J	0.0048	0.00020	mg/kg	SW846 8260B
m,p-Xylene		0.0099	0.0019	0.00075	mg/kg	SW846 8260B
o-Xylene		0.0029	0.0019	0.00023	mg/kg	SW846 8260B
Xylene (total)		0.0128	0.0019	0.00023	mg/kg	SW846 8260B
MC17401-2	**GP-17-15**					
Benzene [a]		154	0.27	0.16	mg/kg	SW846 8260B
n-Butylbenzene [a]		3.01	2.7	0.10	mg/kg	SW846 8260B
sec-Butylbenzene [a]		0.323 J	2.7	0.13	mg/kg	SW846 8260B
Ethylbenzene [a]		1.69	1.1	0.13	mg/kg	SW846 8260B
Isopropylbenzene [a]		0.269 J	2.7	0.12	mg/kg	SW846 8260B
p-Isopropyltoluene [a]		0.415 J	2.7	0.097	mg/kg	SW846 8260B
Naphthalene [a]		45.3	2.7	0.68	mg/kg	SW846 8260B
n-Propylbenzene [a]		1.74 J	2.7	0.55	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		16.3	2.7	0.12	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		3.00	2.7	0.12	mg/kg	SW846 8260B
m,p-Xylene [a]		4.44	1.1	0.43	mg/kg	SW846 8260B
o-Xylene [a]		2.84	1.1	0.13	mg/kg	SW846 8260B
Xylene (total) [a]		7.28	1.1	0.13	mg/kg	SW846 8260B
MC17401-3	**GP-17-15 DUP**					
Benzene [a]		391	0.70	0.42	mg/kg	SW846 8260B
n-Butylbenzene [a]		4.67 J	7.0	0.26	mg/kg	SW846 8260B
Ethylbenzene [a]		3.04	2.8	0.34	mg/kg	SW846 8260B
Naphthalene [a]		64.5	7.0	1.8	mg/kg	SW846 8260B
n-Propylbenzene [a]		2.69 J	7.0	1.4	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		25.0	7.0	0.32	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		4.96 J	7.0	0.30	mg/kg	SW846 8260B
m,p-Xylene [a]		7.57	2.8	1.1	mg/kg	SW846 8260B
o-Xylene [a]		4.76	2.8	0.34	mg/kg	SW846 8260B
Xylene (total) [a]		12.3	2.8	0.34	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC17401
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/07/13 thru 01/08/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC17401-4	**GP-17-45**					
Benzene		1550	6.2	3.6	mg/kg	SW846 8260B
Ethylbenzene [a]		1.45 J	1.6	0.20	mg/kg	SW846 8260B
Toluene [a]		3.09 J	4.1	0.70	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		2.67 J	4.1	0.18	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		0.755 J	4.1	0.18	mg/kg	SW846 8260B
m,p-Xylene [a]		2.73	1.6	0.65	mg/kg	SW846 8260B
o-Xylene [a]		0.945 J	1.6	0.20	mg/kg	SW846 8260B
Xylene (total) [a]		3.68	1.6	0.20	mg/kg	SW846 8260B
MC17401-5	**GP-17-57**					
Benzene [a]		178	0.59	0.35	mg/kg	SW846 8260B
Ethylbenzene [a]		0.569 J	2.4	0.29	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		1.06 J	5.9	0.27	mg/kg	SW846 8260B
MC17401-6	**GP-17-65**					
Benzene [a]		15.4	0.039	0.023	mg/kg	SW846 8260B
n-Butylbenzene [a]		0.0559 J	0.39	0.014	mg/kg	SW846 8260B
Ethylbenzene [a]		0.410	0.16	0.019	mg/kg	SW846 8260B
Isopropylbenzene [a]		0.0402 J	0.39	0.018	mg/kg	SW846 8260B
n-Propylbenzene [a]		0.173 J	0.39	0.079	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		0.675	0.39	0.017	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		0.190 J	0.39	0.017	mg/kg	SW846 8260B
m,p-Xylene [a]		0.934	0.16	0.062	mg/kg	SW846 8260B
o-Xylene [a]		0.230	0.16	0.019	mg/kg	SW846 8260B
Xylene (total) [a]		1.16	0.16	0.019	mg/kg	SW846 8260B
MC17401-7	**TRIP BLANK**					
No hits reported in this sample.						
MC17401-8	**GP-18-21**					
Benzene [a]		9.94	0.18	0.11	mg/kg	SW846 8260B
MC17401-9	**GP-18-37**					
Benzene		453	1.0	0.60	mg/kg	SW846 8260B
Ethylbenzene [a]		1.13 J	2.0	0.25	mg/kg	SW846 8260B
Isopropylbenzene [a]		0.368 J	5.1	0.23	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		6.98	5.1	0.23	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		1.78 J	5.1	0.22	mg/kg	SW846 8260B

Summary of Hits

Job Number: MC17401
Account: Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Collected: 01/07/13 thru 01/08/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
m,p-Xylene [a]		2.52	2.0	0.80	mg/kg	SW846 8260B
o-Xylene [a]		0.798 J	2.0	0.24	mg/kg	SW846 8260B
Xylene (total) [a]		3.32	2.0	0.24	mg/kg	SW846 8260B
MC17401-10	**GP-18-53**					
Benzene		668	1.3	0.79	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		1.75 J	6.7	0.30	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		0.510 J	6.7	0.29	mg/kg	SW846 8260B
MC17401-11	**GP-18-63**					
Benzene [a]		67.8	0.26	0.15	mg/kg	SW846 8260B
Ethylbenzene [a]		0.243 J	1.1	0.13	mg/kg	SW846 8260B
Isopropylbenzene [a]		0.296 J	2.6	0.12	mg/kg	SW846 8260B
n-Propylbenzene [a]		0.785 J	2.6	0.53	mg/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		2.69	2.6	0.12	mg/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		0.731 J	2.6	0.11	mg/kg	SW846 8260B
m,p-Xylene [a]		1.41	1.1	0.41	mg/kg	SW846 8260B
Xylene (total) [a]		1.41	1.1	0.13	mg/kg	SW846 8260B

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	GP-16-91		
Lab Sample ID:	MC17401-1	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.9
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M53434.D	1	01/15/13	AMY	n/a	n/a	MSM1816
Run #2							

	Initial Weight	Final Volume
Run #1	5.96 g	5.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.0048	0.0012	mg/kg	
107-02-8	Acrolein	ND	0.024	0.0095	mg/kg	
107-13-1	Acrylonitrile	ND	0.024	0.0012	mg/kg	
71-43-2	Benzene	0.0488	0.00048	0.00028	mg/kg	
108-86-1	Bromobenzene	ND	0.0048	0.00021	mg/kg	
74-97-5	Bromochloromethane	ND	0.0048	0.00036	mg/kg	
75-27-4	Bromodichloromethane	ND	0.0019	0.00020	mg/kg	
75-25-2	Bromoform	ND	0.0019	0.0019	mg/kg	
74-83-9	Bromomethane	ND	0.0019	0.00050	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.0048	0.0012	mg/kg	
104-51-8	n-Butylbenzene	ND	0.0048	0.00018	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0048	0.00022	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0048	0.00084	mg/kg	
75-15-0	Carbon disulfide	0.00095	0.0048	0.00016	mg/kg	J
56-23-5	Carbon tetrachloride	ND	0.0019	0.00069	mg/kg	
108-90-7	Chlorobenzene	ND	0.0019	0.00026	mg/kg	
75-00-3	Chloroethane	ND	0.0048	0.0012	mg/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	0.0048	0.0019	mg/kg	
67-66-3	Chloroform	0.00075	0.0019	0.00049	mg/kg	J
74-87-3	Chloromethane	ND	0.0048	0.00044	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.0048	0.0011	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.0048	0.00022	mg/kg	
124-48-1	Dibromochloromethane	ND	0.0019	0.00028	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.0019	0.00021	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.0019	0.00022	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.0019	0.00020	mg/kg	
75-71-8	Dichlorodifluoromethane	ND	0.0019	0.0011	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.0019	0.00026	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0019	0.00027	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.0019	0.00035	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.0019	0.00029	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.0019	0.00027	mg/kg	

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:	GP-16-91		
Lab Sample ID:	MC17401-1	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.9
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.0019	0.00036	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.0048	0.00022	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.0048	0.00083	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.0048	0.00025	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.0019	0.00016	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.0019	0.00047	mg/kg	
123-91-1	1,4-Dioxane	ND	0.024	0.024	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.0048	0.00065	mg/kg	
100-41-4	Ethylbenzene	0.0045	0.0019	0.00023	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.0048	0.00044	mg/kg	
591-78-6	2-Hexanone	ND	0.0048	0.00048	mg/kg	
98-82-8	Isopropylbenzene	0.00039	0.0048	0.00022	mg/kg	J
99-87-6	p-Isopropyltoluene	ND	0.0048	0.00017	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0019	0.00027	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.0048	0.00048	mg/kg	
74-95-3	Methylene bromide	ND	0.0048	0.00047	mg/kg	
75-09-2	Methylene chloride	0.0011	0.0019	0.0011	mg/kg	JB
91-20-3	Naphthalene	ND	0.0048	0.0012	mg/kg	
103-65-1	n-Propylbenzene	0.0013	0.0048	0.00097	mg/kg	J
100-42-5	Styrene	ND	0.0048	0.00022	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.0048	0.00095	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.0019	0.00041	mg/kg	
127-18-4	Tetrachloroethene	ND	0.0019	0.00022	mg/kg	
108-88-3	Toluene	0.0040	0.0048	0.00081	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	0.0048	0.00023	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.0048	0.00022	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.0019	0.00030	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.0019	0.00070	mg/kg	
79-01-6	Trichloroethene	ND	0.0019	0.00020	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.0019	0.00029	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.0048	0.00028	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.0047	0.0048	0.00021	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0017	0.0048	0.00020	mg/kg	J
108-05-4	Vinyl Acetate	ND	0.0048	0.00053	mg/kg	
75-01-4	Vinyl chloride	ND	0.0019	0.00026	mg/kg	
	m,p-Xylene	0.0099	0.0019	0.00075	mg/kg	
95-47-6	o-Xylene	0.0029	0.0019	0.00023	mg/kg	
1330-20-7	Xylene (total)	0.0128	0.0019	0.00023	mg/kg	

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:	GP-16-91		
Lab Sample ID:	MC17401-1	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.9
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	109%		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	mg/kg	

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:	GP-16-91		
Lab Sample ID:	MC17401-1	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.9
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77811.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	101%		61-167%
460-00-4	Bromofluorobenzene (S)	114%		61-167%

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:	GP-17-15		
Lab Sample ID:	MC17401-2	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	90.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123587.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.2 g	10.0 ml	10.0 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	2.7	0.69	mg/kg	
107-02-8	Acrolein [b]	ND	14	5.5	mg/kg	
107-13-1	Acrylonitrile	ND	14	0.68	mg/kg	
71-43-2	Benzene	154	0.27	0.16	mg/kg	
108-86-1	Bromobenzene	ND	2.7	0.12	mg/kg	
74-97-5	Bromochloromethane	ND	2.7	0.20	mg/kg	
75-27-4	Bromodichloromethane	ND	1.1	0.12	mg/kg	
75-25-2	Bromoform	ND	1.1	1.1	mg/kg	
74-83-9	Bromomethane	ND	1.1	0.28	mg/kg	
78-93-3	2-Butanone (MEK)	ND	2.7	0.68	mg/kg	
104-51-8	n-Butylbenzene	3.01	2.7	0.10	mg/kg	
135-98-8	sec-Butylbenzene	0.323	2.7	0.13	mg/kg	J
98-06-6	tert-Butylbenzene	ND	2.7	0.48	mg/kg	
75-15-0	Carbon disulfide	ND	2.7	0.090	mg/kg	
56-23-5	Carbon tetrachloride	ND	1.1	0.40	mg/kg	
108-90-7	Chlorobenzene	ND	1.1	0.15	mg/kg	
75-00-3	Chloroethane	ND	2.7	0.69	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	2.7	1.1	mg/kg	
67-66-3	Chloroform	ND	1.1	0.28	mg/kg	
74-87-3	Chloromethane	ND	2.7	0.25	mg/kg	
95-49-8	o-Chlorotoluene	ND	2.7	0.60	mg/kg	
106-43-4	p-Chlorotoluene	ND	2.7	0.12	mg/kg	
124-48-1	Dibromochloromethane	ND	1.1	0.16	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.12	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.12	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.11	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	1.1	0.62	mg/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.15	mg/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.16	mg/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.20	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.16	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.16	mg/kg	

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:	GP-17-15		
Lab Sample ID:	MC17401-2	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	90.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.1	0.20	mg/kg	
142-28-9	1,3-Dichloropropane	ND	2.7	0.13	mg/kg	
594-20-7	2,2-Dichloropropane	ND	2.7	0.47	mg/kg	
563-58-6	1,1-Dichloropropene	ND	2.7	0.14	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	0.093	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.1	0.27	mg/kg	
123-91-1	1,4-Dioxane	ND	14	14	mg/kg	
97-63-2	Ethyl methacrylate	ND	2.7	0.37	mg/kg	
100-41-4	Ethylbenzene	1.69	1.1	0.13	mg/kg	
87-68-3	Hexachlorobutadiene	ND	2.7	0.25	mg/kg	
591-78-6	2-Hexanone	ND	2.7	0.27	mg/kg	
98-82-8	Isopropylbenzene	0.269	2.7	0.12	mg/kg	J
99-87-6	p-Isopropyltoluene	0.415	2.7	0.097	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.16	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.7	0.27	mg/kg	
74-95-3	Methylene bromide	ND	2.7	0.27	mg/kg	
75-09-2	Methylene chloride	ND	1.1	0.63	mg/kg	
91-20-3	Naphthalene	45.3	2.7	0.68	mg/kg	
103-65-1	n-Propylbenzene	1.74	2.7	0.55	mg/kg	J
100-42-5	Styrene	ND	2.7	0.13	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.7	0.55	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.1	0.23	mg/kg	
127-18-4	Tetrachloroethene	ND	1.1	0.12	mg/kg	
108-88-3	Toluene	ND	2.7	0.46	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.7	0.13	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.7	0.12	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	0.17	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.1	0.40	mg/kg	
79-01-6	Trichloroethene	ND	1.1	0.12	mg/kg	
75-69-4	Trichlorofluoromethane	ND	1.1	0.17	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.7	0.16	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	16.3	2.7	0.12	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	3.00	2.7	0.12	mg/kg	
108-05-4	Vinyl Acetate	ND	2.7	0.30	mg/kg	
75-01-4	Vinyl chloride	ND	1.1	0.15	mg/kg	
	m,p-Xylene	4.44	1.1	0.43	mg/kg	
95-47-6	o-Xylene	2.84	1.1	0.13	mg/kg	
1330-20-7	Xylene (total)	7.28	1.1	0.13	mg/kg	

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:	GP-17-15		
Lab Sample ID:	MC17401-2	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	90.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	98%		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	mg/kg	

(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.

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:	GP-17-15		
Lab Sample ID:	MC17401-2	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	90.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77812.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0027	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0027	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	72%		61-167%
460-00-4	Bromofluorobenzene (S)	100%		61-167%

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:	GP-17-15 DUP		
Lab Sample ID:	MC17401-3	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	81.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123588.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.76 g	10.0 ml	10.0 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	7.0	1.8	mg/kg	
107-02-8	Acrolein [b]	ND	35	14	mg/kg	
107-13-1	Acrylonitrile	ND	35	1.8	mg/kg	
71-43-2	Benzene	391	0.70	0.42	mg/kg	
108-86-1	Bromobenzene	ND	7.0	0.31	mg/kg	
74-97-5	Bromochloromethane	ND	7.0	0.53	mg/kg	
75-27-4	Bromodichloromethane	ND	2.8	0.30	mg/kg	
75-25-2	Bromoform	ND	2.8	2.8	mg/kg	
74-83-9	Bromomethane	ND	2.8	0.73	mg/kg	
78-93-3	2-Butanone (MEK)	ND	7.0	1.8	mg/kg	
104-51-8	n-Butylbenzene	4.67	7.0	0.26	mg/kg	J
135-98-8	sec-Butylbenzene	ND	7.0	0.32	mg/kg	
98-06-6	tert-Butylbenzene	ND	7.0	1.2	mg/kg	
75-15-0	Carbon disulfide	ND	7.0	0.23	mg/kg	
56-23-5	Carbon tetrachloride	ND	2.8	1.0	mg/kg	
108-90-7	Chlorobenzene	ND	2.8	0.39	mg/kg	
75-00-3	Chloroethane	ND	7.0	1.8	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	7.0	2.8	mg/kg	
67-66-3	Chloroform	ND	2.8	0.73	mg/kg	
74-87-3	Chloromethane	ND	7.0	0.65	mg/kg	
95-49-8	o-Chlorotoluene	ND	7.0	1.6	mg/kg	
106-43-4	p-Chlorotoluene	ND	7.0	0.32	mg/kg	
124-48-1	Dibromochloromethane	ND	2.8	0.42	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.8	0.30	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.8	0.32	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.8	0.30	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	2.8	1.6	mg/kg	
75-34-3	1,1-Dichloroethane	ND	2.8	0.38	mg/kg	
107-06-2	1,2-Dichloroethane	ND	2.8	0.41	mg/kg	
75-35-4	1,1-Dichloroethene	ND	2.8	0.52	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.8	0.42	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.8	0.40	mg/kg	

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:	GP-17-15 DUP		
Lab Sample ID:	MC17401-3	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	81.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.8	0.52	mg/kg	
142-28-9	1,3-Dichloropropane	ND	7.0	0.33	mg/kg	
594-20-7	2,2-Dichloropropane	ND	7.0	1.2	mg/kg	
563-58-6	1,1-Dichloropropene	ND	7.0	0.37	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.8	0.24	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.8	0.70	mg/kg	
123-91-1	1,4-Dioxane	ND	35	35	mg/kg	
97-63-2	Ethyl methacrylate	ND	7.0	0.96	mg/kg	
100-41-4	Ethylbenzene	3.04	2.8	0.34	mg/kg	
87-68-3	Hexachlorobutadiene	ND	7.0	0.66	mg/kg	
591-78-6	2-Hexanone	ND	7.0	0.70	mg/kg	
98-82-8	Isopropylbenzene	ND	7.0	0.32	mg/kg	
99-87-6	p-Isopropyltoluene	ND	7.0	0.25	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.8	0.41	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	7.0	0.70	mg/kg	
74-95-3	Methylene bromide	ND	7.0	0.70	mg/kg	
75-09-2	Methylene chloride	ND	2.8	1.6	mg/kg	
91-20-3	Naphthalene	64.5	7.0	1.8	mg/kg	
103-65-1	n-Propylbenzene	2.69	7.0	1.4	mg/kg	J
100-42-5	Styrene	ND	7.0	0.33	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.0	1.4	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.8	0.60	mg/kg	
127-18-4	Tetrachloroethene	ND	2.8	0.32	mg/kg	
108-88-3	Toluene	ND	7.0	1.2	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.0	0.33	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.0	0.32	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.8	0.44	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.8	1.0	mg/kg	
79-01-6	Trichloroethene	ND	2.8	0.30	mg/kg	
75-69-4	Trichlorofluoromethane	ND	2.8	0.43	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.0	0.41	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	25.0	7.0	0.32	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	4.96	7.0	0.30	mg/kg	J
108-05-4	Vinyl Acetate	ND	7.0	0.79	mg/kg	
75-01-4	Vinyl chloride	ND	2.8	0.38	mg/kg	
	m,p-Xylene	7.57	2.8	1.1	mg/kg	
95-47-6	o-Xylene	4.76	2.8	0.34	mg/kg	
1330-20-7	Xylene (total)	12.3	2.8	0.34	mg/kg	

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:	GP-17-15 DUP		
Lab Sample ID:	MC17401-3	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	81.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	92%		70-130%

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

(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.

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:	GP-17-15 DUP		
Lab Sample ID:	MC17401-3	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	81.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77813.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0030	0.0014	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0030	0.0012	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		61-167%
460-00-4	Bromofluorobenzene (S)	110%		61-167%

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:	GP-17-45		
Lab Sample ID:	MC17401-4	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	83.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123592.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2	G123609.D	1	01/14/13	JM	n/a	n/a	MSG4909

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.32 g	10.0 ml	15.0 ul
Run #2	5.32 g	10.0 ml	1.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	4.1	1.0	mg/kg	
107-02-8	Acrolein [b]	ND	21	8.2	mg/kg	
107-13-1	Acrylonitrile	ND	21	1.0	mg/kg	
71-43-2	Benzene	1550 [c]	6.2	3.6	mg/kg	
108-86-1	Bromobenzene	ND	4.1	0.18	mg/kg	
74-97-5	Bromochloromethane	ND	4.1	0.31	mg/kg	
75-27-4	Bromodichloromethane	ND	1.6	0.17	mg/kg	
75-25-2	Bromoform	ND	1.6	1.6	mg/kg	
74-83-9	Bromomethane	ND	1.6	0.43	mg/kg	
78-93-3	2-Butanone (MEK)	ND	4.1	1.0	mg/kg	
104-51-8	n-Butylbenzene	ND	4.1	0.15	mg/kg	
135-98-8	sec-Butylbenzene	ND	4.1	0.19	mg/kg	
98-06-6	tert-Butylbenzene	ND	4.1	0.72	mg/kg	
75-15-0	Carbon disulfide	ND	4.1	0.13	mg/kg	
56-23-5	Carbon tetrachloride	ND	1.6	0.60	mg/kg	
108-90-7	Chlorobenzene	ND	1.6	0.23	mg/kg	
75-00-3	Chloroethane	ND	4.1	1.0	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	4.1	1.6	mg/kg	
67-66-3	Chloroform	ND	1.6	0.42	mg/kg	
74-87-3	Chloromethane	ND	4.1	0.38	mg/kg	
95-49-8	o-Chlorotoluene	ND	4.1	0.91	mg/kg	
106-43-4	p-Chlorotoluene	ND	4.1	0.19	mg/kg	
124-48-1	Dibromochloromethane	ND	1.6	0.24	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.18	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.19	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.6	0.17	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	1.6	0.93	mg/kg	
75-34-3	1,1-Dichloroethane	ND	1.6	0.22	mg/kg	
107-06-2	1,2-Dichloroethane	ND	1.6	0.24	mg/kg	
75-35-4	1,1-Dichloroethene	ND	1.6	0.30	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.6	0.25	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.24	mg/kg	

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:	GP-17-45		
Lab Sample ID:	MC17401-4	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	83.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.6	0.31	mg/kg	
142-28-9	1,3-Dichloropropane	ND	4.1	0.19	mg/kg	
594-20-7	2,2-Dichloropropane	ND	4.1	0.71	mg/kg	
563-58-6	1,1-Dichloropropene	ND	4.1	0.22	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.6	0.14	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.6	0.41	mg/kg	
123-91-1	1,4-Dioxane	ND	21	21	mg/kg	
97-63-2	Ethyl methacrylate	ND	4.1	0.56	mg/kg	
100-41-4	Ethylbenzene	1.45	1.6	0.20	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	4.1	0.38	mg/kg	
591-78-6	2-Hexanone	ND	4.1	0.41	mg/kg	
98-82-8	Isopropylbenzene	ND	4.1	0.19	mg/kg	
99-87-6	p-Isopropyltoluene	ND	4.1	0.15	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.6	0.24	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	0.41	mg/kg	
74-95-3	Methylene bromide	ND	4.1	0.40	mg/kg	
75-09-2	Methylene chloride	ND	1.6	0.95	mg/kg	
91-20-3	Naphthalene	ND	4.1	1.0	mg/kg	
103-65-1	n-Propylbenzene	ND	4.1	0.83	mg/kg	
100-42-5	Styrene	ND	4.1	0.19	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	4.1	0.82	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.6	0.35	mg/kg	
127-18-4	Tetrachloroethene	ND	1.6	0.19	mg/kg	
108-88-3	Toluene	3.09	4.1	0.70	mg/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	4.1	0.19	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.1	0.19	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.6	0.26	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.6	0.60	mg/kg	
79-01-6	Trichloroethene	ND	1.6	0.17	mg/kg	
75-69-4	Trichlorofluoromethane	ND	1.6	0.25	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.1	0.24	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	2.67	4.1	0.18	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.755	4.1	0.18	mg/kg	J
108-05-4	Vinyl Acetate	ND	4.1	0.46	mg/kg	
75-01-4	Vinyl chloride	ND	1.6	0.22	mg/kg	
	m,p-Xylene	2.73	1.6	0.65	mg/kg	
95-47-6	o-Xylene	0.945	1.6	0.20	mg/kg	J
1330-20-7	Xylene (total)	3.68	1.6	0.20	mg/kg	

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:	GP-17-45		
Lab Sample ID:	MC17401-4	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	83.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	92%	70-130%
2037-26-5	Toluene-D8	95%	88%	70-130%
460-00-4	4-Bromofluorobenzene	93%	83%	70-130%

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

(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

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:	GP-17-45		
Lab Sample ID:	MC17401-4	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	83.2
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77814.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	103%		61-167%
460-00-4	Bromofluorobenzene (S)	124%		61-167%

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:	GP-17-57		
Lab Sample ID:	MC17401-5	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	79.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123589.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.94 g	10.0 ml	10.0 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.9	1.5	mg/kg	
107-02-8	Acrolein [b]	ND	30	12	mg/kg	
107-13-1	Acrylonitrile	ND	30	1.5	mg/kg	
71-43-2	Benzene	178	0.59	0.35	mg/kg	
108-86-1	Bromobenzene	ND	5.9	0.26	mg/kg	
74-97-5	Bromochloromethane	ND	5.9	0.44	mg/kg	
75-27-4	Bromodichloromethane	ND	2.4	0.25	mg/kg	
75-25-2	Bromoform	ND	2.4	2.4	mg/kg	
74-83-9	Bromomethane	ND	2.4	0.62	mg/kg	
78-93-3	2-Butanone (MEK)	ND	5.9	1.5	mg/kg	
104-51-8	n-Butylbenzene	ND	5.9	0.22	mg/kg	
135-98-8	sec-Butylbenzene	ND	5.9	0.27	mg/kg	
98-06-6	tert-Butylbenzene	ND	5.9	1.0	mg/kg	
75-15-0	Carbon disulfide	ND	5.9	0.19	mg/kg	
56-23-5	Carbon tetrachloride	ND	2.4	0.86	mg/kg	
108-90-7	Chlorobenzene	ND	2.4	0.33	mg/kg	
75-00-3	Chloroethane	ND	5.9	1.5	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	5.9	2.4	mg/kg	
67-66-3	Chloroform	ND	2.4	0.61	mg/kg	
74-87-3	Chloromethane	ND	5.9	0.55	mg/kg	
95-49-8	o-Chlorotoluene	ND	5.9	1.3	mg/kg	
106-43-4	p-Chlorotoluene	ND	5.9	0.27	mg/kg	
124-48-1	Dibromochloromethane	ND	2.4	0.35	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.4	0.26	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.4	0.27	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.4	0.25	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	2.4	1.3	mg/kg	
75-34-3	1,1-Dichloroethane	ND	2.4	0.32	mg/kg	
107-06-2	1,2-Dichloroethane	ND	2.4	0.34	mg/kg	
75-35-4	1,1-Dichloroethene	ND	2.4	0.44	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.4	0.36	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.4	0.34	mg/kg	

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:	GP-17-57		
Lab Sample ID:	MC17401-5	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	79.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.4	0.44	mg/kg	
142-28-9	1,3-Dichloropropane	ND	5.9	0.27	mg/kg	
594-20-7	2,2-Dichloropropane	ND	5.9	1.0	mg/kg	
563-58-6	1,1-Dichloropropene	ND	5.9	0.31	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	0.20	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.59	mg/kg	
123-91-1	1,4-Dioxane	ND	30	30	mg/kg	
97-63-2	Ethyl methacrylate	ND	5.9	0.81	mg/kg	
100-41-4	Ethylbenzene	0.569	2.4	0.29	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	5.9	0.55	mg/kg	
591-78-6	2-Hexanone	ND	5.9	0.59	mg/kg	
98-82-8	Isopropylbenzene	ND	5.9	0.27	mg/kg	
99-87-6	p-Isopropyltoluene	ND	5.9	0.21	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.4	0.34	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.9	0.59	mg/kg	
74-95-3	Methylene bromide	ND	5.9	0.58	mg/kg	
75-09-2	Methylene chloride	ND	2.4	1.4	mg/kg	
91-20-3	Naphthalene	ND	5.9	1.5	mg/kg	
103-65-1	n-Propylbenzene	ND	5.9	1.2	mg/kg	
100-42-5	Styrene	ND	5.9	0.28	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.9	1.2	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.50	mg/kg	
127-18-4	Tetrachloroethene	ND	2.4	0.27	mg/kg	
108-88-3	Toluene	ND	5.9	1.0	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.9	0.28	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.9	0.27	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.37	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.87	mg/kg	
79-01-6	Trichloroethene	ND	2.4	0.25	mg/kg	
75-69-4	Trichlorofluoromethane	ND	2.4	0.36	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.9	0.35	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	1.06	5.9	0.27	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.9	0.25	mg/kg	
108-05-4	Vinyl Acetate	ND	5.9	0.66	mg/kg	
75-01-4	Vinyl chloride	ND	2.4	0.32	mg/kg	
	m,p-Xylene	ND	2.4	0.93	mg/kg	
95-47-6	o-Xylene	ND	2.4	0.28	mg/kg	
1330-20-7	Xylene (total)	ND	2.4	0.28	mg/kg	

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:	GP-17-57		
Lab Sample ID:	MC17401-5	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	79.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	96%		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	mg/kg	

(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.

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:	GP-17-57		
Lab Sample ID:	MC17401-5	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	79.6
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77815.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0031	0.0014	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0031	0.0012	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	103%		61-167%
460-00-4	Bromofluorobenzene (S)	129%		61-167%

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:	GP-17-65		
Lab Sample ID:	MC17401-6	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	84.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123584.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	8.61 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.39	0.098	mg/kg	
107-02-8	Acrolein [b]	ND	2.0	0.78	mg/kg	
107-13-1	Acrylonitrile	ND	2.0	0.098	mg/kg	
71-43-2	Benzene	15.4	0.039	0.023	mg/kg	
108-86-1	Bromobenzene	ND	0.39	0.017	mg/kg	
74-97-5	Bromochloromethane	ND	0.39	0.029	mg/kg	
75-27-4	Bromodichloromethane	ND	0.16	0.016	mg/kg	
75-25-2	Bromoform	ND	0.16	0.16	mg/kg	
74-83-9	Bromomethane	ND	0.16	0.041	mg/kg	
78-93-3	2-Butanone (MEK)	ND	0.39	0.098	mg/kg	
104-51-8	n-Butylbenzene	0.0559	0.39	0.014	mg/kg	J
135-98-8	sec-Butylbenzene	ND	0.39	0.018	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.39	0.069	mg/kg	
75-15-0	Carbon disulfide	ND	0.39	0.013	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.16	0.057	mg/kg	
108-90-7	Chlorobenzene	ND	0.16	0.021	mg/kg	
75-00-3	Chloroethane	ND	0.39	0.098	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	0.39	0.16	mg/kg	
67-66-3	Chloroform	ND	0.16	0.040	mg/kg	
74-87-3	Chloromethane	ND	0.39	0.036	mg/kg	
95-49-8	o-Chlorotoluene	ND	0.39	0.086	mg/kg	
106-43-4	p-Chlorotoluene	ND	0.39	0.018	mg/kg	
124-48-1	Dibromochloromethane	ND	0.16	0.023	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.16	0.017	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.16	0.018	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.16	0.016	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.16	0.089	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.16	0.021	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.16	0.022	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.16	0.029	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	0.023	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	0.022	mg/kg	

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:	GP-17-65		
Lab Sample ID:	MC17401-6	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	84.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.16	0.029	mg/kg	
142-28-9	1,3-Dichloropropane	ND	0.39	0.018	mg/kg	
594-20-7	2,2-Dichloropropane	ND	0.39	0.068	mg/kg	
563-58-6	1,1-Dichloropropene	ND	0.39	0.021	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.16	0.013	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.16	0.039	mg/kg	
123-91-1	1,4-Dioxane	ND	2.0	2.0	mg/kg	
97-63-2	Ethyl methacrylate	ND	0.39	0.053	mg/kg	
100-41-4	Ethylbenzene	0.410	0.16	0.019	mg/kg	
87-68-3	Hexachlorobutadiene	ND	0.39	0.036	mg/kg	
591-78-6	2-Hexanone	ND	0.39	0.039	mg/kg	
98-82-8	Isopropylbenzene	0.0402	0.39	0.018	mg/kg	J
99-87-6	p-Isopropyltoluene	ND	0.39	0.014	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.16	0.022	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	0.39	0.039	mg/kg	
74-95-3	Methylene bromide	ND	0.39	0.039	mg/kg	
75-09-2	Methylene chloride	ND	0.16	0.091	mg/kg	
91-20-3	Naphthalene	ND	0.39	0.098	mg/kg	
103-65-1	n-Propylbenzene	0.173	0.39	0.079	mg/kg	J
100-42-5	Styrene	ND	0.39	0.018	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.39	0.078	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.16	0.033	mg/kg	
127-18-4	Tetrachloroethene	ND	0.16	0.018	mg/kg	
108-88-3	Toluene	ND	0.39	0.066	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	0.39	0.019	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	0.39	0.018	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.16	0.025	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.16	0.057	mg/kg	
79-01-6	Trichloroethene	ND	0.16	0.017	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.16	0.024	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	0.39	0.023	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.675	0.39	0.017	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.190	0.39	0.017	mg/kg	J
108-05-4	Vinyl Acetate	ND	0.39	0.044	mg/kg	
75-01-4	Vinyl chloride	ND	0.16	0.021	mg/kg	
	m,p-Xylene	0.934	0.16	0.062	mg/kg	
95-47-6	o-Xylene	0.230	0.16	0.019	mg/kg	
1330-20-7	Xylene (total)	1.16	0.16	0.019	mg/kg	

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:	GP-17-65		
Lab Sample ID:	MC17401-6	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	84.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	89%		70-130%

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

(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.

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:	GP-17-65		
Lab Sample ID:	MC17401-6	Date Sampled:	01/07/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	84.4
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77817.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0029	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0029	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	91%		61-167%
460-00-4	Bromofluorobenzene (S)	110%		61-167%

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:	TRIP BLANK		
Lab Sample ID:	MC17401-7	Date Sampled:	01/07/13
Matrix:	AQ - Trip Blank Water	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V15133.D	1	01/10/13	AMY	n/a	n/a	MSV612
Run #2							

	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 [a]	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	1.3	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	0.61	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 [a]	ND	5.0	1.3	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:	TRIP BLANK		
Lab Sample ID:	MC17401-7	Date Sampled:	01/07/13
Matrix:	AQ - Trip Blank Water	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL: Roxana Drilling, 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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC17401-7	**Date Sampled:**	01/07/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/09/13
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	101%		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.

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:	TRIP BLANK		
Lab Sample ID:	MC17401-7	**Date Sampled:**	01/07/13
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/09/13
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77933.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020
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)	118%		36-173%
460-00-4	Bromofluorobenzene (S)	120%		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

Report of Analysis

Client Sample ID:	GP-18-21		
Lab Sample ID:	MC17401-8	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123585.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	1.62 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1.8	0.45	mg/kg	
107-02-8	Acrolein [b]	ND	9.0	3.6	mg/kg	
107-13-1	Acrylonitrile	ND	9.0	0.45	mg/kg	
71-43-2	Benzene	9.94	0.18	0.11	mg/kg	
108-86-1	Bromobenzene	ND	1.8	0.080	mg/kg	
74-97-5	Bromochloromethane	ND	1.8	0.13	mg/kg	
75-27-4	Bromodichloromethane	ND	0.72	0.076	mg/kg	
75-25-2	Bromoform	ND	0.72	0.72	mg/kg	
74-83-9	Bromomethane	ND	0.72	0.19	mg/kg	
78-93-3	2-Butanone (MEK)	ND	1.8	0.45	mg/kg	
104-51-8	n-Butylbenzene	ND	1.8	0.066	mg/kg	
135-98-8	sec-Butylbenzene	ND	1.8	0.082	mg/kg	
98-06-6	tert-Butylbenzene	ND	1.8	0.32	mg/kg	
75-15-0	Carbon disulfide	ND	1.8	0.059	mg/kg	
56-23-5	Carbon tetrachloride	ND	0.72	0.26	mg/kg	
108-90-7	Chlorobenzene	ND	0.72	0.099	mg/kg	
75-00-3	Chloroethane	ND	1.8	0.45	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	1.8	0.72	mg/kg	
67-66-3	Chloroform	ND	0.72	0.18	mg/kg	
74-87-3	Chloromethane	ND	1.8	0.17	mg/kg	
95-49-8	o-Chlorotoluene	ND	1.8	0.40	mg/kg	
106-43-4	p-Chlorotoluene	ND	1.8	0.081	mg/kg	
124-48-1	Dibromochloromethane	ND	0.72	0.11	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.72	0.077	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.72	0.081	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.72	0.076	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	0.72	0.41	mg/kg	
75-34-3	1,1-Dichloroethane	ND	0.72	0.097	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.72	0.10	mg/kg	
75-35-4	1,1-Dichloroethene	ND	0.72	0.13	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.72	0.11	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.72	0.10	mg/kg	

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:	GP-18-21		
Lab Sample ID:	MC17401-8	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	0.72	0.13	mg/kg	
142-28-9	1,3-Dichloropropane	ND	1.8	0.083	mg/kg	
594-20-7	2,2-Dichloropropane	ND	1.8	0.31	mg/kg	
563-58-6	1,1-Dichloropropene	ND	1.8	0.094	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.72	0.061	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.72	0.18	mg/kg	
123-91-1	1,4-Dioxane	ND	9.0	9.0	mg/kg	
97-63-2	Ethyl methacrylate	ND	1.8	0.24	mg/kg	
100-41-4	Ethylbenzene	ND	0.72	0.087	mg/kg	
87-68-3	Hexachlorobutadiene	ND	1.8	0.17	mg/kg	
591-78-6	2-Hexanone	ND	1.8	0.18	mg/kg	
98-82-8	Isopropylbenzene	ND	1.8	0.082	mg/kg	
99-87-6	p-Isopropyltoluene	ND	1.8	0.064	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.72	0.10	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	1.8	0.18	mg/kg	
74-95-3	Methylene bromide	ND	1.8	0.18	mg/kg	
75-09-2	Methylene chloride	ND	0.72	0.42	mg/kg	
91-20-3	Naphthalene	ND	1.8	0.45	mg/kg	
103-65-1	n-Propylbenzene	ND	1.8	0.36	mg/kg	
100-42-5	Styrene	ND	1.8	0.084	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.8	0.36	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.72	0.15	mg/kg	
127-18-4	Tetrachloroethene	ND	0.72	0.082	mg/kg	
108-88-3	Toluene	ND	1.8	0.30	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	1.8	0.085	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.082	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.72	0.11	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.72	0.26	mg/kg	
79-01-6	Trichloroethene	ND	0.72	0.076	mg/kg	
75-69-4	Trichlorofluoromethane	ND	0.72	0.11	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	1.8	0.10	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.080	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.077	mg/kg	
108-05-4	Vinyl Acetate	ND	1.8	0.20	mg/kg	
75-01-4	Vinyl chloride	ND	0.72	0.098	mg/kg	
	m,p-Xylene	ND	0.72	0.28	mg/kg	
95-47-6	o-Xylene	ND	0.72	0.086	mg/kg	
1330-20-7	Xylene (total)	ND	0.72	0.086	mg/kg	

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:	GP-18-21		
Lab Sample ID:	MC17401-8	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	100%		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	mg/kg	

(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.

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:	GP-18-21		
Lab Sample ID:	MC17401-8	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77810.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	119%		61-167%
460-00-4	Bromofluorobenzene (S)	131%		61-167%

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:	GP-18-37		
Lab Sample ID:	MC17401-9	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	91.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123590.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2	G123607.D	1	01/14/13	JM	n/a	n/a	MSG4909

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.59 g	10.0 ml	10.0 ul
Run #2	5.59 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.1	1.3	mg/kg	
107-02-8	Acrolein [b]	ND	25	10	mg/kg	
107-13-1	Acrylonitrile	ND	25	1.3	mg/kg	
71-43-2	Benzene	453 [c]	1.0	0.60	mg/kg	
108-86-1	Bromobenzene	ND	5.1	0.23	mg/kg	
74-97-5	Bromochloromethane	ND	5.1	0.38	mg/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.22	mg/kg	
75-25-2	Bromoform	ND	2.0	2.0	mg/kg	
74-83-9	Bromomethane	ND	2.0	0.53	mg/kg	
78-93-3	2-Butanone (MEK)	ND	5.1	1.3	mg/kg	
104-51-8	n-Butylbenzene	ND	5.1	0.19	mg/kg	
135-98-8	sec-Butylbenzene	ND	5.1	0.23	mg/kg	
98-06-6	tert-Butylbenzene	ND	5.1	0.90	mg/kg	
75-15-0	Carbon disulfide	ND	5.1	0.17	mg/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.74	mg/kg	
108-90-7	Chlorobenzene	ND	2.0	0.28	mg/kg	
75-00-3	Chloroethane	ND	5.1	1.3	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	5.1	2.0	mg/kg	
67-66-3	Chloroform	ND	2.0	0.53	mg/kg	
74-87-3	Chloromethane	ND	5.1	0.47	mg/kg	
95-49-8	o-Chlorotoluene	ND	5.1	1.1	mg/kg	
106-43-4	p-Chlorotoluene	ND	5.1	0.23	mg/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.30	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.22	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.23	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.21	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	2.0	1.2	mg/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.28	mg/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.29	mg/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	0.37	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.31	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	mg/kg	

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:	GP-18-37		
Lab Sample ID:	MC17401-9	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	91.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.38	mg/kg	
142-28-9	1,3-Dichloropropane	ND	5.1	0.24	mg/kg	
594-20-7	2,2-Dichloropropane	ND	5.1	0.88	mg/kg	
563-58-6	1,1-Dichloropropene	ND	5.1	0.27	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.17	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.51	mg/kg	
123-91-1	1,4-Dioxane	ND	25	25	mg/kg	
97-63-2	Ethyl methacrylate	ND	5.1	0.69	mg/kg	
100-41-4	Ethylbenzene	1.13	2.0	0.25	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	5.1	0.47	mg/kg	
591-78-6	2-Hexanone	ND	5.1	0.51	mg/kg	
98-82-8	Isopropylbenzene	0.368	5.1	0.23	mg/kg	J
99-87-6	p-Isopropyltoluene	ND	5.1	0.18	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.29	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.1	0.51	mg/kg	
74-95-3	Methylene bromide	ND	5.1	0.50	mg/kg	
75-09-2	Methylene chloride	ND	2.0	1.2	mg/kg	
91-20-3	Naphthalene	ND	5.1	1.3	mg/kg	
103-65-1	n-Propylbenzene	ND	5.1	1.0	mg/kg	
100-42-5	Styrene	ND	5.1	0.24	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.1	1.0	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.43	mg/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.23	mg/kg	
108-88-3	Toluene	ND	5.1	0.86	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.1	0.24	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	0.23	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.32	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.75	mg/kg	
79-01-6	Trichloroethene	ND	2.0	0.22	mg/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.1	0.30	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	6.98	5.1	0.23	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	1.78	5.1	0.22	mg/kg	J
108-05-4	Vinyl Acetate	ND	5.1	0.57	mg/kg	
75-01-4	Vinyl chloride	ND	2.0	0.28	mg/kg	
	m,p-Xylene	2.52	2.0	0.80	mg/kg	
95-47-6	o-Xylene	0.798	2.0	0.24	mg/kg	J
1330-20-7	Xylene (total)	3.32	2.0	0.24	mg/kg	

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:	GP-18-37		
Lab Sample ID:	MC17401-9	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	91.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	94%	70-130%
2037-26-5	Toluene-D8	96%	91%	70-130%
460-00-4	4-Bromofluorobenzene	93%	87%	70-130%

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

(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

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:	GP-18-37		
Lab Sample ID:	MC17401-9	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	91.8
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77818.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0027	0.0012	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0027	0.0010	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	103%		61-167%
460-00-4	Bromofluorobenzene (S)	118%		61-167%

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:	GP-18-53		
Lab Sample ID:	MC17401-10	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	75.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123591.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2	G123608.D	1	01/14/13	JM	n/a	n/a	MSG4909

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.65 g	10.0 ml	10.0 ul
Run #2	5.65 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	6.7	1.7	mg/kg	
107-02-8	Acrolein [b]	ND	34	13	mg/kg	
107-13-1	Acrylonitrile	ND	34	1.7	mg/kg	
71-43-2	Benzene	668 [c]	1.3	0.79	mg/kg	
108-86-1	Bromobenzene	ND	6.7	0.30	mg/kg	
74-97-5	Bromochloromethane	ND	6.7	0.50	mg/kg	
75-27-4	Bromodichloromethane	ND	2.7	0.28	mg/kg	
75-25-2	Bromoform	ND	2.7	2.7	mg/kg	
74-83-9	Bromomethane	ND	2.7	0.70	mg/kg	
78-93-3	2-Butanone (MEK)	ND	6.7	1.7	mg/kg	
104-51-8	n-Butylbenzene	ND	6.7	0.25	mg/kg	
135-98-8	sec-Butylbenzene	ND	6.7	0.31	mg/kg	
98-06-6	tert-Butylbenzene	ND	6.7	1.2	mg/kg	
75-15-0	Carbon disulfide	ND	6.7	0.22	mg/kg	
56-23-5	Carbon tetrachloride	ND	2.7	0.98	mg/kg	
108-90-7	Chlorobenzene	ND	2.7	0.37	mg/kg	
75-00-3	Chloroethane	ND	6.7	1.7	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	6.7	2.7	mg/kg	
67-66-3	Chloroform	ND	2.7	0.69	mg/kg	
74-87-3	Chloromethane	ND	6.7	0.62	mg/kg	
95-49-8	o-Chlorotoluene	ND	6.7	1.5	mg/kg	
106-43-4	p-Chlorotoluene	ND	6.7	0.31	mg/kg	
124-48-1	Dibromochloromethane	ND	2.7	0.40	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.7	0.29	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.7	0.30	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.7	0.28	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	2.7	1.5	mg/kg	
75-34-3	1,1-Dichloroethane	ND	2.7	0.36	mg/kg	
107-06-2	1,2-Dichloroethane	ND	2.7	0.39	mg/kg	
75-35-4	1,1-Dichloroethene	ND	2.7	0.49	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.7	0.41	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.7	0.39	mg/kg	

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:	GP-18-53		
Lab Sample ID:	MC17401-10	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	75.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.7	0.50	mg/kg	
142-28-9	1,3-Dichloropropane	ND	6.7	0.31	mg/kg	
594-20-7	2,2-Dichloropropane	ND	6.7	1.2	mg/kg	
563-58-6	1,1-Dichloropropene	ND	6.7	0.35	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	0.23	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	0.67	mg/kg	
123-91-1	1,4-Dioxane	ND	34	34	mg/kg	
97-63-2	Ethyl methacrylate	ND	6.7	0.92	mg/kg	
100-41-4	Ethylbenzene	ND	2.7	0.33	mg/kg	
87-68-3	Hexachlorobutadiene	ND	6.7	0.63	mg/kg	
591-78-6	2-Hexanone	ND	6.7	0.67	mg/kg	
98-82-8	Isopropylbenzene	ND	6.7	0.31	mg/kg	
99-87-6	p-Isopropyltoluene	ND	6.7	0.24	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.7	0.39	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.7	0.67	mg/kg	
74-95-3	Methylene bromide	ND	6.7	0.66	mg/kg	
75-09-2	Methylene chloride	ND	2.7	1.6	mg/kg	
91-20-3	Naphthalene	ND	6.7	1.7	mg/kg	
103-65-1	n-Propylbenzene	ND	6.7	1.4	mg/kg	
100-42-5	Styrene	ND	6.7	0.31	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.7	1.3	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	0.57	mg/kg	
127-18-4	Tetrachloroethene	ND	2.7	0.31	mg/kg	
108-88-3	Toluene	ND	6.7	1.1	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.7	0.32	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.7	0.31	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.7	0.42	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.7	0.99	mg/kg	
79-01-6	Trichloroethene	ND	2.7	0.28	mg/kg	
75-69-4	Trichlorofluoromethane	ND	2.7	0.41	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.7	0.39	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	1.75	6.7	0.30	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.510	6.7	0.29	mg/kg	J
108-05-4	Vinyl Acetate	ND	6.7	0.75	mg/kg	
75-01-4	Vinyl chloride	ND	2.7	0.37	mg/kg	
	m,p-Xylene	ND	2.7	1.1	mg/kg	
95-47-6	o-Xylene	ND	2.7	0.32	mg/kg	
1330-20-7	Xylene (total)	ND	2.7	0.32	mg/kg	

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:	GP-18-53		
Lab Sample ID:	MC17401-10	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	75.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	70-130%
2037-26-5	Toluene-D8	95%	93%	70-130%
460-00-4	4-Bromofluorobenzene	92%	92%	70-130%

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

(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

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:	GP-18-53		
Lab Sample ID:	MC17401-10	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	75.0
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77819.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0033	0.0015	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0033	0.0013	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	109%		61-167%
460-00-4	Bromofluorobenzene (S)	135%		61-167%

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:	GP-18-63		
Lab Sample ID:	MC17401-11	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G123586.D	1	01/11/13	JM	n/a	n/a	MSG4908
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.85 g	10.0 ml	20.0 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	2.6	0.66	mg/kg	
107-02-8	Acrolein [b]	ND	13	5.3	mg/kg	
107-13-1	Acrylonitrile	ND	13	0.66	mg/kg	
71-43-2	Benzene	67.8	0.26	0.15	mg/kg	
108-86-1	Bromobenzene	ND	2.6	0.12	mg/kg	
74-97-5	Bromochloromethane	ND	2.6	0.20	mg/kg	
75-27-4	Bromodichloromethane	ND	1.1	0.11	mg/kg	
75-25-2	Bromoform	ND	1.1	1.1	mg/kg	
74-83-9	Bromomethane	ND	1.1	0.27	mg/kg	
78-93-3	2-Butanone (MEK)	ND	2.6	0.66	mg/kg	
104-51-8	n-Butylbenzene	ND	2.6	0.097	mg/kg	
135-98-8	sec-Butylbenzene	ND	2.6	0.12	mg/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.46	mg/kg	
75-15-0	Carbon disulfide	ND	2.6	0.086	mg/kg	
56-23-5	Carbon tetrachloride	ND	1.1	0.38	mg/kg	
108-90-7	Chlorobenzene	ND	1.1	0.14	mg/kg	
75-00-3	Chloroethane	ND	2.6	0.66	mg/kg	
110-75-8	2-Chloroethyl vinyl ether [b]	ND	2.6	1.1	mg/kg	
67-66-3	Chloroform	ND	1.1	0.27	mg/kg	
74-87-3	Chloromethane	ND	2.6	0.24	mg/kg	
95-49-8	o-Chlorotoluene	ND	2.6	0.58	mg/kg	
106-43-4	p-Chlorotoluene	ND	2.6	0.12	mg/kg	
124-48-1	Dibromochloromethane	ND	1.1	0.16	mg/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.11	mg/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.12	mg/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.11	mg/kg	
75-71-8	Dichlorodifluoromethane [b]	ND	1.1	0.60	mg/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.14	mg/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.15	mg/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.19	mg/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.16	mg/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.15	mg/kg	

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:	GP-18-63		
Lab Sample ID:	MC17401-11	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1.1	0.20	mg/kg	
142-28-9	1,3-Dichloropropane	ND	2.6	0.12	mg/kg	
594-20-7	2,2-Dichloropropane	ND	2.6	0.46	mg/kg	
563-58-6	1,1-Dichloropropene	ND	2.6	0.14	mg/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	0.090	mg/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.1	0.26	mg/kg	
123-91-1	1,4-Dioxane	ND	13	13	mg/kg	
97-63-2	Ethyl methacrylate	ND	2.6	0.36	mg/kg	
100-41-4	Ethylbenzene	0.243	1.1	0.13	mg/kg	J
87-68-3	Hexachlorobutadiene	ND	2.6	0.24	mg/kg	
591-78-6	2-Hexanone	ND	2.6	0.26	mg/kg	
98-82-8	Isopropylbenzene	0.296	2.6	0.12	mg/kg	J
99-87-6	p-Isopropyltoluene	ND	2.6	0.094	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.15	mg/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2.6	0.26	mg/kg	
74-95-3	Methylene bromide	ND	2.6	0.26	mg/kg	
75-09-2	Methylene chloride	ND	1.1	0.61	mg/kg	
91-20-3	Naphthalene	ND	2.6	0.66	mg/kg	
103-65-1	n-Propylbenzene	0.785	2.6	0.53	mg/kg	J
100-42-5	Styrene	ND	2.6	0.12	mg/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.6	0.53	mg/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.1	0.22	mg/kg	
127-18-4	Tetrachloroethene	ND	1.1	0.12	mg/kg	
108-88-3	Toluene	ND	2.6	0.45	mg/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.6	0.12	mg/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.6	0.12	mg/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.1	0.17	mg/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.1	0.39	mg/kg	
79-01-6	Trichloroethene	ND	1.1	0.11	mg/kg	
75-69-4	Trichlorofluoromethane	ND	1.1	0.16	mg/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.6	0.15	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	2.69	2.6	0.12	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.731	2.6	0.11	mg/kg	J
108-05-4	Vinyl Acetate	ND	2.6	0.29	mg/kg	
75-01-4	Vinyl chloride	ND	1.1	0.14	mg/kg	
	m,p-Xylene	1.41	1.1	0.41	mg/kg	
95-47-6	o-Xylene	ND	1.1	0.13	mg/kg	
1330-20-7	Xylene (total)	1.41	1.1	0.13	mg/kg	

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:	GP-18-63		
Lab Sample ID:	MC17401-11	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8260B	Percent Solids:	87.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	97%		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	mg/kg	

(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.

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:	GP-18-63		
Lab Sample ID:	MC17401-11	Date Sampled:	01/08/13
Matrix:	SO - Soil	Date Received:	01/09/13
Method:	SW846 8011 SW846 3550B	Percent Solids:	87.3
Project:	URSMOSTL: Roxana Drilling, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ77820.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.0028	0.0013	mg/kg	
106-93-4	1,2-Dibromoethane	ND	0.0028	0.0011	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	117%		61-167%
460-00-4	Bromofluorobenzene (S)	142%		61-167%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC17401

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel | E-mail:
Phone #: | Fax #:
Sampler(s) Name(s): Wendy Pennington ~~Jason Stoetter~~ | Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City: Roxana, IL
Project#: 21562850.15000
Client PO#:
Project Manager: D. Palmer

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-1	GP-16-91		1/7/13	1015	WP/JS	SO	4					X		X		X	X	X	
-2	GP-17-15			1325													X	X	
-3	GP-17-15 Dup			1325													X	X	
-4	GP-17-45			1355													X	X	
-5	GP-17-57			1420													X	X	
-6	GP-17-65			1435													X	X	
-7	Trip Blank							X								X	X	X	
-8	GP-18-21		1/8/13	0930	WP/JS	SO	4					X		X		X	X	X	
-8S	GP-18-21 MS			0930													X	X	
-8SD	GP-18-21 MSD			0930													X	X	
-9	GP-18-37			1010													X	X	
-10	GP-18-53			1325													X	X	

Turnaround Time (Business days)
- [X] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [X] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions
IT4, IYF, 10D2

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	1/8/13 1500	1 Fed Ex	2 FX	9 30 1-9-13	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice ~~[ ]~~ Cooler Temp. 1.10c

5.1 5

MC17401: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: MC17401

Client / Reporting Information

Company Name: URS
Street Address:
City State Zip:
Project Contact: E. Kunkel E-mail:
Phone #: Fax #:
Sampler(s) Name(s): Wendy Pennington, Jason Stoettler Phone #:

Project Information

Project Name: Roxana Drilling
Street:
City: Roxana, IL
Project# 21562850.15000
Client PO#:
Project Manager: D. Palmer

Billing Information (If different from Report to)

Company Name: URS
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOC 8260, VOC 8011

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC 8260	VOC 8011	LAB USE ONLY
-11	GP-18-63		1/8/13	1405	WP/JS	SO	4					X		X	X	X	X	X	

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [x] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Wendy Pennington	1/8/13 1500	1 Fed Ex	2 FX	1-9-13 9:30	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice: [x] Cooler Temp: 1.1°C

5.1 5

MC17401: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC17401 Client: URS Immediate Client Services Action Required: No

Date / Time Received: 1/9/2013 Delivery Method: Client Service Action Required at Login: No

Project: ROXANA DRILLING 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:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservatio	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

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC17401: Chain of Custody
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Internal Sample Tracking Chronicle

Shell Oil

Job No: MC17401

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC17401-1 Collected: 07-JAN-13 10:15 By: WPJS Received: 09-JAN-13 By: GP-16-91						
MC17401-1	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-1	SW846 8011	14-JAN-13 20:01	CZ	12-JAN-13	CC	V8011SL
MC17401-1	SW846 8260B	15-JAN-13 14:27	AMY			V8260SL+
MC17401-2 Collected: 07-JAN-13 13:25 By: WPJS Received: 09-JAN-13 By: GP-17-15						
MC17401-2	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-2	SW846 8260B	11-JAN-13 13:32	JM			V8260SL+
MC17401-2	SW846 8011	14-JAN-13 20:26	CZ	12-JAN-13	CC	V8011SL
MC17401-3 Collected: 07-JAN-13 13:25 By: WPJS Received: 09-JAN-13 By: GP-17-15 DUP						
MC17401-3	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-3	SW846 8260B	11-JAN-13 14:01	JM			V8260SL+
MC17401-3	SW846 8011	14-JAN-13 20:51	CZ	12-JAN-13	CC	V8011SL
MC17401-4 Collected: 07-JAN-13 13:55 By: WPJS Received: 09-JAN-13 By: GP-17-45						
MC17401-4	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-4	SW846 8260B	11-JAN-13 15:58	JM			V8260SL+
MC17401-4	SW846 8260B	14-JAN-13 12:25	JM			V8260SL+
MC17401-4	SW846 8011	14-JAN-13 21:17	CZ	12-JAN-13	CC	V8011SL
MC17401-5 Collected: 07-JAN-13 14:20 By: WPJS Received: 09-JAN-13 By: GP-17-57						
MC17401-5	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-5	SW846 8260B	11-JAN-13 14:30	JM			V8260SL+
MC17401-5	SW846 8011	14-JAN-13 21:43	CZ	12-JAN-13	CC	V8011SL
MC17401-6 Collected: 07-JAN-13 14:35 By: WPJS Received: 09-JAN-13 By: GP-17-65						
MC17401-6	SM21 2540 B MOD.	11-JAN-13	HS			%SOL

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC17401

URSMOSTL: Roxana Drilling, Roxana, IL
Project No: 21562850.15000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC17401-6	SW846 8260B	11-JAN-13 12:06	JM			V8260SL+
MC17401-6	SW846 8011	14-JAN-13 22:33	CZ	12-JAN-13	CC	V8011SL
MC17401-7 Collected: 07-JAN-13 00:00 By: WPJS Received: 09-JAN-13 By: TRIP BLANK						
MC17401-7	SW846 8260B	10-JAN-13 14:06	AMY			V8260SL+
MC17401-7	SW846 8011	19-JAN-13 04:10	CZ	17-JAN-13	BJ	V8011SL
MC17401-8 Collected: 08-JAN-13 09:30 By: WPJS Received: 09-JAN-13 By: GP-18-21						
MC17401-8	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-8	SW846 8260B	11-JAN-13 12:35	JM			V8260SL+
MC17401-8	SW846 8011	14-JAN-13 19:35	CZ	12-JAN-13	CC	V8011SL
MC17401-9 Collected: 08-JAN-13 10:10 By: WPJS Received: 09-JAN-13 By: GP-18-37						
MC17401-9	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-9	SW846 8260B	11-JAN-13 14:59	JM			V8260SL+
MC17401-9	SW846 8260B	14-JAN-13 11:28	JM			V8260SL+
MC17401-9	SW846 8011	14-JAN-13 22:59	CZ	12-JAN-13	CC	V8011SL
MC17401-10 Collected: 08-JAN-13 13:25 By: WPJS Received: 09-JAN-13 By: GP-18-53						
MC17401-10	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-10	SW846 8260B	11-JAN-13 15:28	JM			V8260SL+
MC17401-10	SW846 8260B	14-JAN-13 11:56	JM			V8260SL+
MC17401-10	SW846 8011	14-JAN-13 23:24	CZ	12-JAN-13	CC	V8011SL
MC17401-11 Collected: 08-JAN-13 14:05 By: WPJS Received: 09-JAN-13 By: GP-18-63						
MC17401-11	SM21 2540 B MOD.	11-JAN-13	HS			%SOL
MC17401-11	SW846 8260B	11-JAN-13 13:04	JM			V8260SL+
MC17401-11	SW846 8011	14-JAN-13 23:49	CZ	12-JAN-13	CC	V8011SL

SGS Accutest Internal Chain of Custody

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17401-1.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-1.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-1.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-1.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-1.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-1.2	VOC Ref #10	Amy Min Yang	01/15/13 12:39	Retrieve from Storage
MC17401-1.2	Amy Min Yang	GCMSM	01/15/13 12:39	Load on Instrument
MC17401-1.2	GCMSM	Amy Min Yang	01/22/13 09:57	Unload from Instrument
MC17401-1.2	Amy Min Yang	VOC Ref #10	01/22/13 09:59	Return to Storage
MC17401-1.2	Scott Parsick		03/13/13 14:25	Disposed
MC17401-2.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-2.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-2.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-2.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-2.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-3.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-3.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-3.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-3.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-3.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-4.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-4.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-4.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-4.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-4.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-4.4	VOC Ref #10	Jaime Maslowski	01/14/13 11:10	Retrieve from Storage
MC17401-4.4	Jaime Maslowski	VOC Ref #10	01/15/13 10:16	Return to Storage
MC17401-4.4	Scott Parsick		03/13/13 14:25	Disposed
MC17401-5.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-5.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-5.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-5.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-5.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-6.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-6.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-6.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-6.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17401-6.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-7.1	VOC Ref #1	Amy Min Yang	01/10/13 11:54	Retrieve from Storage
MC17401-7.1	Amy Min Yang	GCMSV	01/10/13 11:54	Load on Instrument
MC17401-7.1	GCMSV	Amy Min Yang	01/11/13 09:22	Unload from Instrument
MC17401-7.1	Amy Min Yang	VOC Ref #1	01/11/13 09:22	Return to Storage
MC17401-7.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-7.4	VOC Ref #1	Bijan Jafari	01/17/13 13:21	Retrieve from Storage
MC17401-7.4	Bijan Jafari		01/17/13 19:07	Depleted
MC17401-8.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-8.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-8.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-8.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-8.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-8.2	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-8.2	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-8.2	Scott Parsick		03/13/13 14:25	Disposed
MC17401-9.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-9.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-9.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-9.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-9.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-9.4	VOC Ref #10	Jaime Maslowski	01/14/13 11:10	Retrieve from Storage
MC17401-9.4	Jaime Maslowski	VOC Ref #10	01/15/13 10:16	Return to Storage
MC17401-9.4	Scott Parsick		03/13/13 14:25	Disposed
MC17401-10.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-10.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-10.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage
MC17401-10.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-10.1	Scott Parsick		03/13/13 14:25	Disposed
MC17401-10.4	VOC Ref #10	Jaime Maslowski	01/14/13 11:10	Retrieve from Storage
MC17401-10.4	Jaime Maslowski	VOC Ref #10	01/15/13 10:16	Return to Storage
MC17401-10.4	Scott Parsick		03/13/13 14:25	Disposed
MC17401-11.1	Walk In Ref #9	Hamid Siamak	01/11/13 08:42	Retrieve from Storage
MC17401-11.1	Hamid Siamak	Walk In Ref #9	01/11/13 09:38	Return to Storage
MC17401-11.1	Walk In Ref #9	Chris Cataldo	01/12/13 12:42	Retrieve from Storage

SGS Accutest Internal Chain of Custody

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL
Received: 01/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC17401-11.1	Chris Cataldo	Walk In Ref #9	01/12/13 15:30	Return to Storage
MC17401-11.1	Scott Parsick		03/13/13 14:25	Disposed

GC/MS Volatiles

QC Data Summaries

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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-7

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	1.3	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	0.61	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	1.3	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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-7

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	
91-20-3	Naphthalene	ND	5.0	0.50	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	1.3	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	1.3	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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-MB	V15129.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	101%	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	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-MB	G123581.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	250	63	ug/kg	
107-02-8	Acrolein	ND	1300	500	ug/kg	
107-13-1	Acrylonitrile	ND	1300	63	ug/kg	
71-43-2	Benzene	ND	25	15	ug/kg	
108-86-1	Bromobenzene	ND	250	11	ug/kg	
74-97-5	Bromochloromethane	ND	250	19	ug/kg	
75-27-4	Bromodichloromethane	ND	100	11	ug/kg	
75-25-2	Bromoform	ND	100	100	ug/kg	
74-83-9	Bromomethane	ND	100	26	ug/kg	
78-93-3	2-Butanone (MEK)	ND	250	63	ug/kg	
104-51-8	n-Butylbenzene	ND	250	9.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	11	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	44	ug/kg	
75-15-0	Carbon disulfide	ND	250	8.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	36	ug/kg	
108-90-7	Chlorobenzene	ND	100	14	ug/kg	
75-00-3	Chloroethane	ND	250	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	100	26	ug/kg	
74-87-3	Chloromethane	ND	250	23	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	55	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	11	ug/kg	
124-48-1	Dibromochloromethane	ND	100	15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	11	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	11	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	11	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	57	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	18	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	15	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	14	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	19	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	12	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	13	ug/kg	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-MB	G123581.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	100	8.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	25	ug/kg	
123-91-1	1,4-Dioxane	ND	1300	1300	ug/kg	
97-63-2	Ethyl methacrylate	ND	250	34	ug/kg	
100-41-4	Ethylbenzene	ND	100	12	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	23	ug/kg	
591-78-6	2-Hexanone	ND	250	25	ug/kg	
98-82-8	Isopropylbenzene	ND	250	11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	25	ug/kg	
74-95-3	Methylene bromide	ND	250	25	ug/kg	
75-09-2	Methylene chloride	ND	100	58	ug/kg	
91-20-3	Naphthalene	ND	250	63	ug/kg	
103-65-1	n-Propylbenzene	ND	250	51	ug/kg	
100-42-5	Styrene	ND	250	12	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	21	ug/kg	
127-18-4	Tetrachloroethene	ND	100	11	ug/kg	
108-88-3	Toluene	ND	250	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	250	12	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	37	ug/kg	
79-01-6	Trichloroethene	ND	100	11	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	15	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	15	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	11	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	11	ug/kg	
108-05-4	Vinyl Acetate	ND	250	28	ug/kg	
75-01-4	Vinyl chloride	ND	100	14	ug/kg	
	m,p-Xylene	ND	100	39	ug/kg	
95-47-6	o-Xylene	ND	100	12	ug/kg	
1330-20-7	Xylene (total)	ND	100	12	ug/kg	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-MB	G123581.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	99%	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/kg	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4909-MB	G123606.D	1	01/14/13	JM	n/a	n/a	MSG4909

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-4, MC17401-9, MC17401-10

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	15	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	91%	70-130%

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-MB	M53431.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	1.3	ug/kg	
107-02-8	Acrolein	ND	25	10	ug/kg	
107-13-1	Acrylonitrile	ND	25	1.3	ug/kg	
71-43-2	Benzene	ND	0.50	0.29	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.22	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.21	ug/kg	
75-25-2	Bromoform	ND	2.0	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	0.52	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5.0	1.3	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.18	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.23	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.88	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	0.16	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.73	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.28	ug/kg	
75-00-3	Chloroethane	ND	5.0	1.3	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	2.0	0.52	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.46	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.23	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.30	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.23	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	0.27	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	0.29	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	0.37	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.37	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.23	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.87	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.26	ug/kg	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-MB	M53431.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.50	ug/kg	
123-91-1	1,4-Dioxane	ND	25	25	ug/kg	
97-63-2	Ethyl methacrylate	ND	5.0	0.68	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.24	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.46	ug/kg	
591-78-6	2-Hexanone	ND	5.0	0.50	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.23	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.18	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.29	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.50	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.49	ug/kg	
75-09-2	Methylene chloride	2.2	2.0	1.2	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.3	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	5.0	0.23	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.43	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.23	ug/kg	
108-88-3	Toluene	ND	5.0	0.85	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.24	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.23	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.31	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.73	ug/kg	
79-01-6	Trichloroethene	ND	2.0	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	0.30	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.29	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	0.56	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.27	ug/kg	
	m,p-Xylene	ND	2.0	0.79	ug/kg	
95-47-6	o-Xylene	ND	2.0	0.24	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	0.24	ug/kg	

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-MB	M53431.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	107%	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/kg	

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-BS	G123578.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	2500	3960	158* [a]	70-130
107-02-8	Acrolein	12500	7480	60* [a]	70-130
107-13-1	Acrylonitrile	2500	2390	96	70-130
71-43-2	Benzene	2500	2550	102	70-130
108-86-1	Bromobenzene	2500	2630	105	70-130
74-97-5	Bromochloromethane	2500	2670	107	70-130
75-27-4	Bromodichloromethane	2500	2640	106	70-130
75-25-2	Bromoform	2500	2360	94	70-130
74-83-9	Bromomethane	2500	2630	105	70-130
78-93-3	2-Butanone (MEK)	2500	3420	137* [a]	70-130
104-51-8	n-Butylbenzene	2500	2540	102	70-130
135-98-8	sec-Butylbenzene	2500	2430	97	70-130
98-06-6	tert-Butylbenzene	2500	2170	87	70-130
75-15-0	Carbon disulfide	2500	2570	103	70-130
56-23-5	Carbon tetrachloride	2500	2630	105	70-130
108-90-7	Chlorobenzene	2500	2530	101	70-130
75-00-3	Chloroethane	2500	2640	106	70-130
110-75-8	2-Chloroethyl vinyl ether	2500	884	35	10-160
67-66-3	Chloroform	2500	2610	104	70-130
74-87-3	Chloromethane	2500	2960	118	70-130
95-49-8	o-Chlorotoluene	2500	2440	98	70-130
106-43-4	p-Chlorotoluene	2500	2530	101	70-130
124-48-1	Dibromochloromethane	2500	2600	104	70-130
95-50-1	1,2-Dichlorobenzene	2500	2470	99	70-130
541-73-1	1,3-Dichlorobenzene	2500	2530	101	70-130
106-46-7	1,4-Dichlorobenzene	2500	2640	106	70-130
75-71-8	Dichlorodifluoromethane	2500	3480	139* [a]	70-130
75-34-3	1,1-Dichloroethane	2500	2640	106	70-130
107-06-2	1,2-Dichloroethane	2500	2610	104	70-130
75-35-4	1,1-Dichloroethene	2500	2720	109	70-130
156-59-2	cis-1,2-Dichloroethene	2500	2610	104	70-130
156-60-5	trans-1,2-Dichloroethene	2500	2640	106	70-130
78-87-5	1,2-Dichloropropane	2500	2580	103	70-130
142-28-9	1,3-Dichloropropane	2500	2520	101	70-130
594-20-7	2,2-Dichloropropane	2500	2880	115	70-130
563-58-6	1,1-Dichloropropene	2500	2560	102	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-BS	G123578.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	2500	2540	102	70-130
10061-02-6	trans-1,3-Dichloropropene	2500	2720	109	70-130
123-91-1	1,4-Dioxane	12500	9560	76	70-130
97-63-2	Ethyl methacrylate	2500	2490	100	76-141
100-41-4	Ethylbenzene	2500	2580	103	70-130
87-68-3	Hexachlorobutadiene	2500	2560	102	70-130
591-78-6	2-Hexanone	2500	3360	134* [a]	70-130
98-82-8	Isopropylbenzene	2500	2460	98	70-130
99-87-6	p-Isopropyltoluene	2500	2680	107	70-130
1634-04-4	Methyl Tert Butyl Ether	2500	2610	104	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	1880	75	70-130
74-95-3	Methylene bromide	2500	2610	104	70-130
75-09-2	Methylene chloride	2500	2680	107	70-130
91-20-3	Naphthalene	2500	2200	88	70-130
103-65-1	n-Propylbenzene	2500	2440	98	70-130
100-42-5	Styrene	2500	2500	100	70-130
630-20-6	1,1,1,2-Tetrachloroethane	2500	2560	102	70-130
79-34-5	1,1,2,2-Tetrachloroethane	2500	2530	101	70-130
127-18-4	Tetrachloroethene	2500	2650	106	70-130
108-88-3	Toluene	2500	2570	103	70-130
87-61-6	1,2,3-Trichlorobenzene	2500	2010	80	70-130
120-82-1	1,2,4-Trichlorobenzene	2500	2310	92	70-130
71-55-6	1,1,1-Trichloroethane	2500	2670	107	70-130
79-00-5	1,1,2-Trichloroethane	2500	2570	103	70-130
79-01-6	Trichloroethene	2500	2560	102	70-130
75-69-4	Trichlorofluoromethane	2500	2650	106	70-130
96-18-4	1,2,3-Trichloropropane	2500	2510	100	70-130
95-63-6	1,2,4-Trimethylbenzene	2500	2500	100	70-130
108-67-8	1,3,5-Trimethylbenzene	2500	2510	100	70-130
108-05-4	Vinyl Acetate	2500	2870	115	70-130
75-01-4	Vinyl chloride	2500	2020	81	70-130
	m,p-Xylene	5000	5090	102	70-130
95-47-6	o-Xylene	2500	2530	101	70-130
1330-20-7	Xylene (total)	7500	7610	101	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4908-BS	G123578.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	101%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-BS	M53432.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	36.0	72	70-130
107-02-8	Acrolein	250	241	96	70-130
107-13-1	Acrylonitrile	50	57.8	116	70-130
71-43-2	Benzene	50	53.4	107	70-130
108-86-1	Bromobenzene	50	42.6	85	70-130
74-97-5	Bromochloromethane	50	54.1	108	70-130
75-27-4	Bromodichloromethane	50	49.6	99	70-130
75-25-2	Bromoform	50	41.0	82	70-130
74-83-9	Bromomethane	50	59.6	119	70-130
78-93-3	2-Butanone (MEK)	50	56.7	113	70-130
104-51-8	n-Butylbenzene	50	50.0	100	70-130
135-98-8	sec-Butylbenzene	50	47.1	94	70-130
98-06-6	tert-Butylbenzene	50	45.9	92	70-130
75-15-0	Carbon disulfide	50	65.7	131* [a]	70-130
56-23-5	Carbon tetrachloride	50	57.5	115	70-130
108-90-7	Chlorobenzene	50	42.4	85	70-130
75-00-3	Chloroethane	50	62.8	126	70-130
110-75-8	2-Chloroethyl vinyl ether	50	50.7	101	10-160
67-66-3	Chloroform	50	57.2	114	70-130
74-87-3	Chloromethane	50	71.3	143* [a]	70-130
95-49-8	o-Chlorotoluene	50	42.9	86	70-130
106-43-4	p-Chlorotoluene	50	44.4	89	70-130
124-48-1	Dibromochloromethane	50	42.4	85	70-130
95-50-1	1,2-Dichlorobenzene	50	40.6	81	70-130
541-73-1	1,3-Dichlorobenzene	50	42.4	85	70-130
106-46-7	1,4-Dichlorobenzene	50	42.8	86	70-130
75-71-8	Dichlorodifluoromethane	50	78.5	157* [a]	70-130
75-34-3	1,1-Dichloroethane	50	60.4	121	70-130
107-06-2	1,2-Dichloroethane	50	48.6	97	70-130
75-35-4	1,1-Dichloroethene	50	66.1	132* [a]	70-130
156-59-2	cis-1,2-Dichloroethene	50	56.6	113	70-130
156-60-5	trans-1,2-Dichloroethene	50	59.6	119	70-130
78-87-5	1,2-Dichloropropane	50	50.3	101	70-130
142-28-9	1,3-Dichloropropane	50	41.4	83	70-130
594-20-7	2,2-Dichloropropane	50	64.3	129	70-130
563-58-6	1,1-Dichloropropene	50	58.8	118	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-BS	M53432.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	48.5	97	70-130
10061-02-6	trans-1,3-Dichloropropene	50	50.9	102	70-130
123-91-1	1,4-Dioxane	250	295	118	70-130
97-63-2	Ethyl methacrylate	50	55.0	110	76-141
100-41-4	Ethylbenzene	50	46.9	94	70-130
87-68-3	Hexachlorobutadiene	50	48.5	97	70-130
591-78-6	2-Hexanone	50	50.1	100	70-130
98-82-8	Isopropylbenzene	50	46.6	93	70-130
99-87-6	p-Isopropyltoluene	50	50.7	101	70-130
1634-04-4	Methyl Tert Butyl Ether	50	50.9	102	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	58.7	117	70-130
74-95-3	Methylene bromide	50	48.3	97	70-130
75-09-2	Methylene chloride	50	54.2	108	70-130
91-20-3	Naphthalene	50	48.0	96	70-130
103-65-1	n-Propylbenzene	50	46.3	93	70-130
100-42-5	Styrene	50	43.7	87	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	43.8	88	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	43.3	87	70-130
127-18-4	Tetrachloroethene	50	49.2	98	70-130
108-88-3	Toluene	50	54.9	110	70-130
87-61-6	1,2,3-Trichlorobenzene	50	44.3	89	70-130
120-82-1	1,2,4-Trichlorobenzene	50	45.6	91	70-130
71-55-6	1,1,1-Trichloroethane	50	62.9	126	70-130
79-00-5	1,1,2-Trichloroethane	50	49.0	98	70-130
79-01-6	Trichloroethene	50	55.6	111	70-130
75-69-4	Trichlorofluoromethane	50	67.6	135* [a]	70-130
96-18-4	1,2,3-Trichloropropane	50	44.7	89	70-130
95-63-6	1,2,4-Trimethylbenzene	50	46.2	92	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.3	93	70-130
108-05-4	Vinyl Acetate	50	43.6	87	70-130
75-01-4	Vinyl chloride	50	62.0	124	70-130
	m,p-Xylene	100	92.8	93	70-130
95-47-6	o-Xylene	50	44.3	89	70-130
1330-20-7	Xylene (total)	150	137	91	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM1816-BS	M53432.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	109%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	68.5	137* [a]	59.4	119	14	70-130/25
107-02-8	Acrolein	250	257	103	260	104	1	70-130/25
107-13-1	Acrylonitrile	50	56.6	113	57.5	115	2	70-130/25
71-43-2	Benzene	50	52.3	105	53.6	107	2	70-130/25
108-86-1	Bromobenzene	50	52.5	105	53.2	106	1	70-130/25
74-97-5	Bromochloromethane	50	55.3	111	55.9	112	1	70-130/25
75-27-4	Bromodichloromethane	50	51.0	102	52.0	104	2	70-130/25
75-25-2	Bromoform	50	45.9	92	46.5	93	1	70-130/25
74-83-9	Bromomethane	50	53.6	107	54.8	110	2	70-130/25
78-93-3	2-Butanone (MEK)	50	57.2	114	54.7	109	4	70-130/25
104-51-8	n-Butylbenzene	50	56.5	113	57.2	114	1	70-130/25
135-98-8	sec-Butylbenzene	50	51.6	103	52.3	105	1	70-130/25
98-06-6	tert-Butylbenzene	50	50.3	101	51.2	102	2	70-130/25
75-15-0	Carbon disulfide	50	55.8	112	57.0	114	2	70-130/25
56-23-5	Carbon tetrachloride	50	52.7	105	54.0	108	2	70-130/25
108-90-7	Chlorobenzene	50	48.2	96	49.3	99	2	70-130/25
75-00-3	Chloroethane	50	54.6	109	54.9	110	1	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	21.1	42* [a]	21.7	43* [a]	3	70-130/25
67-66-3	Chloroform	50	56.4	113	57.4	115	2	70-130/25
74-87-3	Chloromethane	50	59.5	119	61.2	122	3	70-130/25
95-49-8	o-Chlorotoluene	50	50.0	100	50.6	101	1	70-130/25
106-43-4	p-Chlorotoluene	50	51.6	103	52.1	104	1	70-130/25
124-48-1	Dibromochloromethane	50	45.7	91	46.1	92	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	48.8	98	49.4	99	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	49.4	99	49.8	100	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.1	100	50.8	102	1	70-130/25
75-71-8	Dichlorodifluoromethane	50	81.3	163* [a]	86.0	172* [a]	6	70-130/25
75-34-3	1,1-Dichloroethane	50	56.4	113	57.2	114	1	70-130/25
107-06-2	1,2-Dichloroethane	50	55.6	111	56.9	114	2	70-130/25
75-35-4	1,1-Dichloroethene	50	56.9	114	58.8	118	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	53.2	106	54.1	108	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	54.3	109	55.3	111	2	70-130/25
78-87-5	1,2-Dichloropropane	50	55.5	111	56.7	113	2	70-130/25
142-28-9	1,3-Dichloropropane	50	51.4	103	52.5	105	2	70-130/25
594-20-7	2,2-Dichloropropane	50	69.9	140* [a]	71.3	143* [a]	2	70-130/25
563-58-6	1,1-Dichloropropene	50	54.9	110	57.1	114	4	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-7

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	48.8	98	50.0	100	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	51.2	102	52.5	105	3	70-130/25
123-91-1	1,4-Dioxane	250	262	105	261	104	0	70-130/25
97-63-2	Ethyl methacrylate	50	51.0	102	51.9	104	2	77-137/25
100-41-4	Ethylbenzene	50	52.3	105	53.4	107	2	70-130/25
87-68-3	Hexachlorobutadiene	50	55.4	111	57.4	115	4	70-130/25
591-78-6	2-Hexanone	50	51.8	104	51.2	102	1	70-130/25
98-82-8	Isopropylbenzene	50	51.3	103	52.0	104	1	70-130/25
99-87-6	p-Isopropyltoluene	50	56.6	113	57.7	115	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	53.7	107	54.7	109	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.3	101	52.1	104	4	70-130/25
74-95-3	Methylene bromide	50	57.3	115	58.0	116	1	70-130/25
75-09-2	Methylene chloride	50	53.3	107	54.1	108	1	70-130/25
91-20-3	Naphthalene	50	52.6	105	55.7	111	6	70-130/25
103-65-1	n-Propylbenzene	50	52.5	105	52.8	106	1	70-130/25
100-42-5	Styrene	50	47.8	96	48.7	97	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	47.0	94	48.0	96	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	50.0	100	50.9	102	2	70-130/25
127-18-4	Tetrachloroethene	50	51.0	102	52.4	105	3	70-130/25
108-88-3	Toluene	50	55.0	110	56.6	113	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	56.6	113	62.9	126	11	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	54.8	110	57.9	116	6	70-130/25
71-55-6	1,1,1-Trichloroethane	50	59.9	120	62.0	124	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	55.8	112	57.0	114	2	70-130/25
79-01-6	Trichloroethene	50	54.1	108	55.6	111	3	70-130/25
75-69-4	Trichlorofluoromethane	50	54.9	110	55.9	112	2	70-130/25
96-18-4	1,2,3-Trichloropropane	50	49.4	99	50.3	101	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	52.3	105	52.7	105	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	52.9	106	53.3	107	1	70-130/25
108-05-4	Vinyl Acetate	50	58.0	116	59.0	118	2	70-130/25
75-01-4	Vinyl chloride	50	50.4	101	51.6	103	2	70-130/25
	m,p-Xylene	100	101	101	103	103	2	70-130/25
95-47-6	o-Xylene	50	49.8	100	51.2	102	3	70-130/25
1330-20-7	Xylene (total)	150	151	101	154	103	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV612-BS	V15125.D	1	01/10/13	AMY	n/a	n/a	MSV612
MSV612-BSD	V15126.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	101%	70-130%
2037-26-5	Toluene-D8	103%	103%	70-130%
460-00-4	4-Bromofluorobenzene	95%	94%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4909-BS	G123603.D	1	01/14/13	JM	n/a	n/a	MSG4909
MSG4909-BSD	G123604.D	1	01/14/13	JM	n/a	n/a	MSG4909

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-4, MC17401-9, MC17401-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2500	2470	99	2440	98	1	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	101%	70-130%
2037-26-5	Toluene-D8	98%	96%	70-130%
460-00-4	4-Bromofluorobenzene	91%	89%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-7

CAS No.	Compound	MC17371-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	52.6	105	50	52.7	105	0	70-130/30
107-02-8	Acrolein	ND		250	239	96	250	234	94	2	70-130/30
107-13-1	Acrylonitrile	ND		50	59.0	118	50	56.4	113	5	70-130/30
71-43-2	Benzene	ND		50	53.9	108	50	52.5	105	3	70-130/30
108-86-1	Bromobenzene	ND		50	52.7	105	50	52.1	104	1	70-130/30
74-97-5	Bromochloromethane	ND		50	56.2	112	50	55.3	111	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	51.9	104	50	51.4	103	1	70-130/30
75-25-2	Bromoform	ND		50	45.0	90	50	44.7	89	1	70-130/30
74-83-9	Bromomethane	ND		50	56.6	113	50	54.2	108	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	50.1	100	50	50.4	101	1	70-130/30
104-51-8	n-Butylbenzene	ND		50	54.1	108	50	54.1	108	0	70-130/30
135-98-8	sec-Butylbenzene	ND		50	49.8	100	50	49.2	98	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	49.3	99	50	48.6	97	1	70-130/30
75-15-0	Carbon disulfide	ND		50	56.2	112	50	54.6	109	3	70-130/30
56-23-5	Carbon tetrachloride	ND		50	54.2	108	50	53.0	106	2	70-130/30
108-90-7	Chlorobenzene	ND		50	48.6	97	50	47.5	95	2	70-130/30
75-00-3	Chloroethane	ND		50	57.4	115	50	54.5	109	5	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	58.6	117	50	56.8	114	3	70-130/30
74-87-3	Chloromethane	ND		50	60.6	121	50	60.7	121	0	70-130/30
95-49-8	o-Chlorotoluene	ND		50	49.8	100	50	49.2	98	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	51.8	104	50	51.1	102	1	70-130/30
124-48-1	Dibromochloromethane	ND		50	45.5	91	50	45.0	90	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	47.9	96	50	48.5	97	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	48.7	97	50	48.8	98	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	49.9	100	50	49.7	99	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	90.7	181* [a]	50	84.8	170* [a]	7	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	57.9	116	50	56.3	113	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	58.4	117	50	57.2	114	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	58.9	118	50	56.3	113	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	54.6	109	50	53.4	107	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	55.4	111	50	53.6	107	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	57.1	114	50	56.3	113	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	52.2	104	50	51.9	104	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	66.1	132* [a]	50	65.8	132* [a]	0	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	57.9	116	50	55.5	111	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-7

CAS No.	Compound	MC17371-4 ug/l	Q	Spike 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	48.3	97	50	48.3	97	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	51.1	102	50	51.1	102	0	70-130/30
123-91-1	1,4-Dioxane	ND		250	257	103	250	254	102	1	70-130/30
97-63-2	Ethyl methacrylate	ND		50	52.1	104	50	51.8	104	1	72-139/30
100-41-4	Ethylbenzene	ND		50	53.0	106	50	51.4	103	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	48.2	96	50	52.9	106	9	70-130/30
591-78-6	2-Hexanone	ND		50	49.1	98	50	48.3	97	2	70-130/30
98-82-8	Isopropylbenzene	ND		50	50.7	101	50	49.9	100	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	54.7	109	50	54.5	109	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	53.2	106	50	53.7	107	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	51.2	102	50	51.0	102	0	70-130/30
74-95-3	Methylene bromide	ND		50	58.8	118	50	57.9	116	2	70-130/30
75-09-2	Methylene chloride	ND		50	55.0	110	50	53.7	107	2	70-130/30
91-20-3	Naphthalene	ND		50	40.5	81	50	54.0	108	29	70-130/30
103-65-1	n-Propylbenzene	ND		50	51.7	103	50	50.5	101	2	70-130/30
100-42-5	Styrene	ND		50	47.9	96	50	47.1	94	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	47.1	94	50	46.4	93	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	50.7	101	50	50.9	102	0	70-130/30
127-18-4	Tetrachloroethene	ND		50	50.7	101	50	49.5	99	2	70-130/30
108-88-3	Toluene	ND		50	57.0	114	50	55.5	111	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	39.8	80	50	57.3	115	36* b	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	45.7	91	50	54.3	109	17	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	61.1	122	50	59.8	120	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	57.8	116	50	56.8	114	2	70-130/30
79-01-6	Trichloroethene	ND		50	55.8	112	50	53.9	108	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	60.1	120	50	57.0	114	5	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	52.7	105	50	52.9	106	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	51.3	103	50	50.8	102	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	51.9	104	50	51.1	102	2	70-130/30
108-05-4	Vinyl Acetate	ND		50	57.5	115	50	56.2	112	2	70-130/30
75-01-4	Vinyl chloride	ND		50	52.9	106	50	50.6	101	4	70-130/30
	m,p-Xylene	ND		100	101	101	100	98.7	99	2	70-130/30
95-47-6	o-Xylene	ND		50	49.8	100	50	48.6	97	2	70-130/30
1330-20-7	Xylene (total)	ND		150	151	101	150	147	98	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17371-4MS	V15141.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4MSD	V15142.D	1	01/10/13	AMY	n/a	n/a	MSV612
MC17371-4	V15135.D	1	01/10/13	AMY	n/a	n/a	MSV612

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-7

CAS No.	Surrogate Recoveries	MS	MSD	MC17371-4	Limits
1868-53-7	Dibromofluoromethane	103%	104%	99%	70-130%
2037-26-5	Toluene-D8	104%	104%	102%	70-130%
460-00-4	4-Bromofluorobenzene	94%	95%	94%	70-130%

(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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17401-8MS	G123593.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8MSD	G123594.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8 [a]	G123585.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	MC17401-8 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		17900	17700	99	17900	17200	96	3	70-130/30
107-02-8	Acrolein	ND		89600	105000	117	89600	105000	117	0	70-130/30
107-13-1	Acrylonitrile	ND		17900	17900	100	17900	17700	99	1	70-130/30
71-43-2	Benzene	9940		17900	28800	105	17900	27500	98	5	70-130/30
108-86-1	Bromobenzene	ND		17900	19300	108	17900	18700	104	3	70-130/30
74-97-5	Bromochloromethane	ND		17900	19200	107	17900	18800	105	2	70-130/30
75-27-4	Bromodichloromethane	ND		17900	18700	104	17900	18100	101	3	70-130/30
75-25-2	Bromoform	ND		17900	17400	97	17900	17300	97	1	70-130/30
74-83-9	Bromomethane	ND		17900	19600	109	17900	18700	104	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		17900	17600	98	17900	17800	99	1	70-130/30
104-51-8	n-Butylbenzene	ND		17900	20900	117	17900	20600	115	1	70-130/30
135-98-8	sec-Butylbenzene	ND		17900	19400	108	17900	18900	105	3	70-130/30
98-06-6	tert-Butylbenzene	ND		17900	15800	88	17900	15600	87	1	70-130/30
75-15-0	Carbon disulfide	ND		17900	19000	106	17900	18200	102	4	70-130/30
56-23-5	Carbon tetrachloride	ND		17900	18800	105	17900	18000	100	4	70-130/30
108-90-7	Chlorobenzene	ND		17900	18100	101	17900	17700	99	2	70-130/30
75-00-3	Chloroethane	ND		17900	19300	108	17900	18300	102	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		17900	5880	33	17900	5850	33	1	10-160/30
67-66-3	Chloroform	ND		17900	18600	104	17900	18000	100	3	70-130/30
74-87-3	Chloromethane	ND		17900	20800	116	17900	20400	114	2	70-130/30
95-49-8	o-Chlorotoluene	ND		17900	17300	97	17900	17200	96	1	70-130/30
106-43-4	p-Chlorotoluene	ND		17900	18600	104	17900	17700	99	5	70-130/30
124-48-1	Dibromochloromethane	ND		17900	18900	105	17900	18600	104	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		17900	17500	98	17900	17200	96	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		17900	18100	101	17900	17600	98	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		17900	18900	105	17900	18400	103	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		17900	26300	147* [b]	17900	25500	142* [b]	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		17900	18900	105	17900	18400	103	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		17900	19100	107	17900	18400	103	4	70-130/30
75-35-4	1,1-Dichloroethene	ND		17900	21100	118	17900	20000	112	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		17900	18500	103	17900	17900	100	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		17900	19200	107	17900	18600	104	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		17900	18100	101	17900	17600	98	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		17900	18500	103	17900	18200	102	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		17900	18700	104	17900	18600	104	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		17900	18500	103	17900	17900	100	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17401-8MS	G123593.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8MSD	G123594.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8 [a]	G123585.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	MC17401-8 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		17900	17900	100	17900	17500	98	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		17900	19200	107	17900	18700	104	3	70-130/30
123-91-1	1,4-Dioxane	ND		89600	58900	66* [b]	89600	67100	75	13	70-130/30
97-63-2	Ethyl methacrylate	ND		17900	18000	100	17900	17700	99	2	41-160/30
100-41-4	Ethylbenzene	ND		17900	18700	104	17900	18300	102	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		17900	24500	137* [b]	17900	24300	136* [b]	1	70-130/30
591-78-6	2-Hexanone	ND		17900	17600	98	17900	17400	97	1	70-130/30
98-82-8	Isopropylbenzene	ND		17900	18000	100	17900	17600	98	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		17900	20700	115	17900	20200	113	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		17900	19500	109	17900	18900	105	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		17900	13600	76	17900	13600	76	0	70-130/30
74-95-3	Methylene bromide	ND		17900	18500	103	17900	18000	100	3	70-130/30
75-09-2	Methylene chloride	ND		17900	19300	108	17900	18900	105	2	70-130/30
91-20-3	Naphthalene	ND		17900	14900	83	17900	15100	84	1	70-130/30
103-65-1	n-Propylbenzene	ND		17900	18000	100	17900	17600	98	2	70-130/30
100-42-5	Styrene	ND		17900	17900	100	17900	17500	98	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		17900	18600	104	17900	17800	99	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		17900	18900	105	17900	19200	107	2	70-130/30
127-18-4	Tetrachloroethene	ND		17900	19300	108	17900	19000	106	2	70-130/30
108-88-3	Toluene	ND		17900	18200	102	17900	17700	99	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		17900	11000	61* [b]	17900	11300	63* [b]	3	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		17900	13400	75	17900	13300	74	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		17900	18200	102	17900	18200	102	0	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		17900	18400	103	17900	18200	102	1	70-130/30
79-01-6	Trichloroethene	ND		17900	18400	103	17900	17900	100	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		17900	20400	114	17900	19800	110	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		17900	18900	105	17900	18700	104	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		17900	18400	103	17900	17900	100	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		17900	18600	104	17900	17900	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		17900	21400	119	17900	20800	116	3	70-130/30
75-01-4	Vinyl chloride	ND		17900	14800	83	17900	15400	86	4	70-130/30
	m,p-Xylene	ND		35800	36900	103	35800	35700	100	3	70-130/30
95-47-6	o-Xylene	ND		17900	18200	102	17900	17600	98	3	70-130/30
1330-20-7	Xylene (total)	ND		53800	55100	102	53800	53300	99	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17401-8MS	G123593.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8MSD	G123594.D	1	01/11/13	JM	n/a	n/a	MSG4908
MC17401-8 [a]	G123585.D	1	01/11/13	JM	n/a	n/a	MSG4908

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Surrogate Recoveries	MS	MSD	MC17401-8	Limits
1868-53-7	Dibromofluoromethane	100%	97%	100%	70-130%
2037-26-5	Toluene-D8	96%	93%	100%	70-130%
460-00-4	4-Bromofluorobenzene	92%	88%	96%	70-130%

(a) Vinyl Chloride (CCC's) do not meet the reference method acceptance criteria in instrument QC and results may be biased low.
(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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17458-2MS	G123615.D	1	01/14/13	JM	n/a	n/a	MSG4909
MC17458-2MSD	G123616.D	1	01/14/13	JM	n/a	n/a	MSG4909
MC17458-2	G123610.D	1	01/14/13	JM	n/a	n/a	MSG4909

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-4, MC17401-9, MC17401-10

CAS No.	Compound	MC17458-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3040	2950	97	3040	2930	96	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC17458-2	Limits
1868-53-7	Dibromofluoromethane	96%	97%	93%	70-130%
2037-26-5	Toluene-D8	93%	92%	90%	70-130%
460-00-4	4-Bromofluorobenzene	84%	88%	83%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17422-6MS	M53437.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6MSD	M53438.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6	M53436.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-1

CAS No.	Compound	MC17422-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		58.7	100	170* [a]	59.9	82.1	137* [a]	20	70-130/30
107-02-8	Acrolein	ND		293	325	111	299	319	107	2	70-130/30
107-13-1	Acrylonitrile	ND		58.7	66.7	114	59.9	66.0	110	1	70-130/30
71-43-2	Benzene	1.0		58.7	54.3	91	59.9	52.5	86	3	70-130/30
108-86-1	Bromobenzene	ND		58.7	23.9	41* [a]	59.9	21.7	36* [a]	10	70-130/30
74-97-5	Bromochloromethane	ND		58.7	53.5	91	59.9	51.9	87	3	70-130/30
75-27-4	Bromodichloromethane	ND		58.7	45.1	77	59.9	43.5	73	4	70-130/30
75-25-2	Bromoform	ND		58.7	25.1	43* [a]	59.9	25.7	43* [a]	2	70-130/30
74-83-9	Bromomethane	ND		58.7	64.1	109	59.9	62.2	104	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		58.7	63.3	108	59.9	62.4	104	1	70-130/30
104-51-8	n-Butylbenzene	ND		58.7	34.6	59* [a]	59.9	31.2	52* [a]	10	70-130/30
135-98-8	sec-Butylbenzene	ND		58.7	41.2	70	59.9	37.5	63* [a]	9	70-130/30
98-06-6	tert-Butylbenzene	ND		58.7	43.0	73	59.9	38.9	65* [a]	10	70-130/30
75-15-0	Carbon disulfide	ND		58.7	64.7	110	59.9	63.2	106	2	70-130/30
56-23-5	Carbon tetrachloride	ND		58.7	61.9	106	59.9	60.0	100	3	70-130/30
108-90-7	Chlorobenzene	ND		58.7	29.3	50* [a]	59.9	28.8	48* [a]	2	70-130/30
75-00-3	Chloroethane	ND		58.7	65.9	112	59.9	65.0	109	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		58.7	67.9	116	59.9	54.4	91	22	10-160/30
67-66-3	Chloroform	ND		58.7	57.9	99	59.9	55.2	92	5	70-130/30
74-87-3	Chloromethane	ND		58.7	80.4	137* [a]	59.9	77.7	130	3	70-130/30
95-49-8	o-Chlorotoluene	ND		58.7	30.9	53* [a]	59.9	27.8	46* [a]	11	70-130/30
106-43-4	p-Chlorotoluene	ND		58.7	27.1	46* [a]	59.9	23.2	39* [a]	16	70-130/30
124-48-1	Dibromochloromethane	ND		58.7	33.5	57* [a]	59.9	32.1	54* [a]	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		58.7	17.1	29* [a]	59.9	14.4	24* [a]	17	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		58.7	20.4	35* [a]	59.9	16.9	28* [a]	19	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		58.7	19.1	33* [a]	59.9	15.4	26* [a]	21	70-130/30
75-71-8	Dichlorodifluoromethane	ND		58.7	86.5	147* [a]	59.9	87.2	146* [a]	1	70-130/30
75-34-3	1,1-Dichloroethane	ND		58.7	62.9	107	59.9	60.3	101	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		58.7	46.5	79	59.9	44.9	75	4	70-130/30
75-35-4	1,1-Dichloroethene	ND		58.7	68.5	117	59.9	68.5	114	0	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		58.7	54.8	93	59.9	51.4	86	6	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		58.7	58.1	99	59.9	57.0	95	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		58.7	49.4	84	59.9	47.5	79	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		58.7	32.1	55* [a]	59.9	31.6	53* [a]	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		58.7	67.6	115	59.9	66.8	112	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		58.7	59.9	102	59.9	58.6	98	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17422-6MS	M53437.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6MSD	M53438.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6	M53436.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: Method: SW846 8260B

MC17401-1

CAS No.	Compound	MC17422-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		58.7	36.8	63* a	59.9	35.5	59* a	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		58.7	30.8	53* a	59.9	30.7	51* a	0	70-130/30
123-91-1	1,4-Dioxane	ND		293	428	146* a	299	388	130	10	70-130/30
97-63-2	Ethyl methacrylate	ND		58.7	40.2	69	59.9	41.0	68	2	41-160/30
100-41-4	Ethylbenzene	ND		58.7	40.5	69* a	59.9	38.3	64* a	6	70-130/30
87-68-3	Hexachlorobutadiene	ND		58.7	25.3	43* a	59.9	31.4	52* a	22	70-130/30
591-78-6	2-Hexanone	ND		58.7	41.7	71	59.9	41.5	69* a	0	70-130/30
98-82-8	Isopropylbenzene	ND		58.7	43.7	74	59.9	39.6	66* a	10	70-130/30
99-87-6	p-Isopropyltoluene	ND		58.7	40.5	69* a	59.9	36.4	61* a	11	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		58.7	63.2	108	59.9	58.6	98	8	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		58.7	60.7	103	59.9	61.6	103	1	70-130/30
74-95-3	Methylene bromide	ND		58.7	42.5	72	59.9	42.3	71	0	70-130/30
75-09-2	Methylene chloride	6.3	B	58.7	61.2	94	59.9	57.7	86	6	70-130/30
91-20-3	Naphthalene	ND		58.7	9.4	16* a	59.9	10.2	17* a	8	70-130/30
103-65-1	n-Propylbenzene	ND		58.7	39.0	66* a	59.9	34.9	58* a	11	70-130/30
100-42-5	Styrene	ND		58.7	24.5	42* a	59.9	23.9	40* a	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		58.7	39.4	67* a	59.9	37.0	62* a	6	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		58.7	31.0	53* a	59.9	31.5	53* a	2	70-130/30
127-18-4	Tetrachloroethene	ND		58.7	46.2	79	59.9	45.4	76	2	70-130/30
108-88-3	Toluene	ND		58.7	50.1	85	59.9	49.3	82	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		58.7	10.7	18* a	59.9	8.6	14* a	22	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		58.7	13.5	23* a	59.9	9.4	16* a	36* b	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		58.7	66.5	113	59.9	66.0	110	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		58.7	40.9	70	59.9	41.5	69* a	1	70-130/30
79-01-6	Trichloroethene	ND		58.7	51.9	88	59.9	50.6	84	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		58.7	71.7	122	59.9	72.7	121	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		58.7	25.2	43* a	59.9	26.2	44* a	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		58.7	33.5	57* a	59.9	29.3	49* a	13	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		58.7	38.5	66* a	59.9	34.3	57* a	12	70-130/30
108-05-4	Vinyl Acetate	ND		58.7	52.0	89	59.9	47.6	79	9	70-130/30
75-01-4	Vinyl chloride	ND		58.7	67.1	114	59.9	67.4	113	0	70-130/30
	m,p-Xylene	ND		117	76.1	65* a	120	72.9	61* a	4	70-130/30
95-47-6	o-Xylene	ND		58.7	36.0	61* a	59.9	34.2	57* a	5	70-130/30
1330-20-7	Xylene (total)	ND		176	112	64* a	180	107	60* a	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC17422-6MS	M53437.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6MSD	M53438.D	1	01/15/13	AMY	n/a	n/a	MSM1816
MC17422-6	M53436.D	1	01/15/13	AMY	n/a	n/a	MSM1816

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC17401-1

CAS No.	Surrogate Recoveries	MS	MSD	MC17422-6	Limits
1868-53-7	Dibromofluoromethane	102%	102%	103%	70-130%
2037-26-5	Toluene-D8	109%	112%	107%	70-130%
460-00-4	4-Bromofluorobenzene	104%	102%	103%	70-130%

(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.

Volatile Internal Standard Area Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4908-CC4894	**Injection Date:**	01/11/13
Lab File ID:	G123577.D	**Injection Time:**	08:30
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	204314	5.13	279853	6.27	137196	9.62	142175	12.25	36793	3.09
Upper Limit [a]	408628	5.63	559706	6.77	274392	10.12	284350	12.75	73586	3.59
Lower Limit [b]	102157	4.63	139927	5.77	68598	9.12	71088	11.75	18397	2.59

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4908-BS	203363	5.13	278803	6.27	137556	9.62	141234	12.25	33900	3.09
MSG4908-MB	198065	5.13	269100	6.27	134892	9.62	136699	12.25	38424	3.10
ZZZZZZ	198602	5.13	271694	6.27	133522	9.62	136943	12.25	36690	3.09
ZZZZZZ	199453	5.13	272836	6.27	134418	9.62	135419	12.25	36139	3.09
MC17401-6 [c]	199967	5.13	276343	6.27	136200	9.62	137516	12.25	35288	3.09
MC17401-8 [c]	201117	5.13	268397	6.27	132994	9.62	131534	12.25	36858	3.09
MC17401-11 [c]	202047	5.13	278982	6.27	135987	9.62	135682	12.25	36191	3.09
MC17401-2 [c]	204847	5.13	282186	6.27	138145	9.62	141184	12.25	38412	3.09
MC17401-3 [c]	206029	5.13	283755	6.27	136479	9.62	139837	12.25	36285	3.09
MC17401-5 [c]	203953	5.13	283004	6.27	137301	9.62	137816	12.25	37055	3.09
MC17401-9 [c]	199556	5.13	279526	6.27	135048	9.62	137816	12.25	36878	3.09
MC17401-10 [c]	204906	5.13	285088	6.27	135975	9.62	137731	12.25	38354	3.09
MC17401-4 [c]	202935	5.13	286643	6.27	136002	9.62	137177	12.25	41670	3.09
MC17401-8MS	202758	5.13	279190	6.27	136267	9.62	139913	12.25	39461	3.10
MC17401-8MSD	203780	5.13	281936	6.27	136127	9.62	140320	12.25	39858	3.10
ZZZZZZ	203555	5.13	275820	6.27	150926	9.63	140827	12.25	34969	3.09
ZZZZZZ	211585	5.13	293149	6.27	197883	9.62	152150	12.25	38008	3.09
ZZZZZZ	205144	5.13	285585	6.27	237707	9.65	173778	12.26	38047	3.09

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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSG4909-CC4894	**Injection Date:**	01/14/13
Lab File ID:	G123602.D	**Injection Time:**	09:04
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	199287	5.13	275905	6.27	135677	9.62	141069	12.25	51056	3.10
Upper Limit [a]	398574	5.63	551810	6.77	271354	10.12	282138	12.75	102112	3.60
Lower Limit [b]	99644	4.63	137953	5.77	67839	9.12	70535	11.75	25528	2.60

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSG4909-BS	204860	5.13	280158	6.27	140211	9.62	144730	12.25	50394	3.10
MSG4909-BSD	202769	5.13	278432	6.27	140177	9.62	144567	12.25	47368	3.10
MSG4909-MB	202920	5.13	278045	6.27	137295	9.62	139437	12.25	45304	3.10
MC17401-9	204460	5.14	279670	6.27	136935	9.62	136782	12.25	42982	3.09
MC17401-10	200752	5.13	281266	6.27	137987	9.62	134950	12.25	42346	3.09
MC17401-4	205071	5.13	282330	6.27	137624	9.62	136762	12.25	43489	3.09
MC17458-2	203093	5.13	274410	6.27	136386	9.62	138465	12.25	42201	3.09
ZZZZZZ	200870	5.13	275332	6.27	135807	9.62	137739	12.25	41547	3.09
ZZZZZZ	199669	5.13	274699	6.27	135163	9.62	136178	12.25	42186	3.09
ZZZZZZ	202239	5.13	270755	6.27	135406	9.62	136846	12.25	40407	3.09
ZZZZZZ	199154	5.13	272796	6.27	136880	9.62	137580	12.25	39025	3.09
MC17458-2MS	203112	5.13	276749	6.27	137300	9.62	145016	12.25	38102	3.09
MC17458-2MSD	202409	5.13	280937	6.27	136577	9.62	142086	12.25	38071	3.09
ZZZZZZ	201352	5.13	277517	6.27	135711	9.62	140904	12.25	41337	3.09
ZZZZZZ	200344	5.13	273792	6.27	134877	9.62	139868	12.25	39051	3.10
ZZZZZZ	201055	5.13	274589	6.27	134213	9.62	140339	12.25	36664	3.09
ZZZZZZ	202841	5.13	278051	6.27	137687	9.62	140745	12.25	36747	3.09
ZZZZZZ	202433	5.13	276624	6.27	135094	9.62	139629	12.25	37236	3.09
ZZZZZZ	202341	5.13	276650	6.27	135703	9.62	137606	12.25	46514	3.09

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 Internal Standard Area Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSM1816-CC1815	**Injection Date:**	01/15/13
Lab File ID:	M53427.D	**Injection Time:**	10:54
Instrument ID:	GCMSM	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	528082	9.36	842510	10.24	468626	13.52	554756	16.08	181645	6.86
Upper Limit [a]	1056164	9.86	1685020	10.74	937252	14.02	1109512	16.58	363290	7.36
Lower Limit [b]	264041	8.86	421255	9.74	234313	13.02	277378	15.58	90823	6.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSM1816-MB	511889	9.36	804251	10.24	435063	13.52	536832	16.08	171307	6.86
MSM1816-BS	460331	9.36	738737	10.24	425550	13.52	512907	16.08	380229[c]	6.85
MC17401-1	501820	9.36	781062	10.24	425613	13.52	530536	16.08	270269	6.85
ZZZZZZ	501861	9.36	788337	10.24	425492	13.52	536541	16.08	164797	6.86
MC17422-6	476190	9.36	751605	10.24	407694	13.52	457756	16.08	309478	6.86
MC17422-6MS	498335	9.36	781824	10.24	439301	13.52	483210	16.08	329029	6.85
MC17422-6MSD	500110	9.36	790529	10.24	447546	13.52	513024	16.08	323630	6.86
ZZZZZZ	522183	9.36	818277	10.24	446224	13.52	544374	16.08	174382	6.86
ZZZZZZ	459707	9.36	723910	10.24	400592	13.52	467825	16.08	324870	6.85
ZZZZZZ	417293	9.36	662022	10.24	362189	13.52	403903	16.08	276678	6.85
ZZZZZZ	469107	9.36	744280	10.24	389711	13.52	406586	16.08	309152	6.86
ZZZZZZ	499825	9.36	787449	10.24	434610	13.52	551499	16.08	332676	6.86
ZZZZZZ	368751	9.36	572951	10.24	318519	13.52	399224	16.08	187156	6.86
ZZZZZZ	495174	9.36	782244	10.24	431043	13.52	551297	16.08	265338	6.85
ZZZZZZ	510875	9.36	813630	10.24	447616	13.52	558333	16.08	267995	6.86
ZZZZZZ	489484	9.36	771112	10.24	426342	13.52	525250	16.08	326099	6.86
ZZZZZZ	295877	9.36	458021	10.24	253687	13.52	320105	16.08	170161	6.86
ZZZZZZ	379004	9.36	591166	10.24	328981	13.52	418664	16.08	251361	6.85

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. Target analytes not associated with this internal standard.

Volatile Internal Standard Area Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSV612-CC595	**Injection Date:**	01/10/13
Lab File ID:	V15124.D	**Injection Time:**	09:41
Instrument ID:	GCMSV	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	329636	6.49	565800	7.69	311842	11.05	267114	13.30	66924	3.45
Upper Limit [a]	659272	6.99	1131600	8.19	623684	11.55	534228	13.80	133848	3.95
Lower Limit [b]	164818	5.99	282900	7.19	155921	10.55	133557	12.80	33462	2.95

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV612-BS	331452	6.50	568033	7.69	313951	11.05	271317	13.29	72884	3.46
MSV612-BSD	335115	6.50	570296	7.69	315080	11.05	275843	13.29	77144	3.46
MSV612-MB	322569	6.49	559751	7.69	306154	11.06	254917	13.29	71461	3.46
ZZZZZZ	311596	6.50	541122	7.69	296385	11.05	245660	13.29	65833	3.46
ZZZZZZ	313664	6.49	546706	7.69	299253	11.05	249262	13.29	68657	3.46
ZZZZZZ	310904	6.49	546524	7.69	298148	11.05	247384	13.29	68095	3.45
MC17401-7	310575	6.49	544460	7.69	298983	11.05	248313	13.29	66175	3.45
ZZZZZZ	303490	6.50	535036	7.69	292554	11.05	241899	13.29	64475	3.46
MC17371-4	303028	6.49	530951	7.69	295599	11.05	243381	13.29	64473	3.46
ZZZZZZ	304253	6.49	531984	7.69	294959	11.05	241069	13.29	63826	3.46
ZZZZZZ	299333	6.49	526501	7.69	292248	11.05	241063	13.29	66953	3.46
ZZZZZZ	297009	6.49	520174	7.69	291955	11.05	238184	13.29	63123	3.46
ZZZZZZ	296357	6.49	516081	7.68	288070	11.05	236624	13.29	63373	3.45
ZZZZZZ	295143	6.49	516046	7.69	288867	11.05	237694	13.29	64653	3.46
MC17371-4MS	313277	6.48	536715	7.68	301409	11.05	260825	13.29	68786	3.45
MC17371-4MSD	317628	6.49	542829	7.68	304766	11.05	261510	13.29	70968	3.45
ZZZZZZ	306551	6.48	535505	7.68	298029	11.05	247093	13.29	64472	3.44
ZZZZZZ	299888	6.49	525266	7.68	292442	11.05	240526	13.29	63040	3.45
ZZZZZZ	303354	6.48	526560	7.68	291864	11.05	241172	13.29	64955	3.45
ZZZZZZ	299340	6.48	521470	7.68	292481	11.05	244415	13.29	56899	3.45
ZZZZZZ	305003	6.48	522929	7.68	291770	11.05	239756	13.29	56584	3.44
ZZZZZZ	253521	6.48	434626	7.68	228720	11.05	183931	13.29	49421	3.45
ZZZZZZ	248736	6.48	431947	7.68	228186	11.05	185969	13.29	51856	3.45
ZZZZZZ	252607	6.48	437886	7.68	228977	11.05	187547	13.29	52460	3.44
ZZZZZZ	252147	6.49	433197	7.68	228343	11.05	188229	13.29	49317	3.45
ZZZZZZ	264216	6.49	453491	7.68	238629	11.05	196485	13.29	53657	3.45
ZZZZZZ	261608	6.48	444235	7.68	231911	11.05	193719	13.29	49863	3.44
ZZZZZZ	254184	6.49	436859	7.68	230296	11.05	186241	13.29	50157	3.45
ZZZZZZ	253030	6.49	435199	7.68	227437	11.05	184341	13.29	49844	3.45
ZZZZZZ	248513	6.48	432024	7.68	227468	11.05	186066	13.29	51534	3.45
ZZZZZZ	252915	6.49	439228	7.68	231269	11.05	189036	13.29	50109	3.45
ZZZZZZ	248161	6.49	427475	7.68	226543	11.05	184408	13.29	48392	3.45
ZZZZZZ	245678	6.49	429871	7.68	225847	11.05	183058	13.29	51299	3.46
ZZZZZZ	242502	6.48	417392	7.68	221773	11.05	178848	13.29	48140	3.45
ZZZZZZ	240785	6.49	420738	7.68	221756	11.05	178529	13.29	48239	3.45

Volatile Internal Standard Area Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	MSV612-CC595	Injection Date:	01/10/13
Lab File ID:	V15124.D	Injection Time:	09:41
Instrument ID:	GCMSV	Method:	SW846 8260B

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
ZZZZZZ	248964	6.49	429352	7.68	226603	11.05	187041	13.29	49328	3.45
ZZZZZZ	249445	6.48	432300	7.68	229251	11.05	190544	13.29	53637	3.45
ZZZZZZ	254762	6.48	436748	7.68	230557	11.05	190173	13.29	45682	3.45
ZZZZZZ	251171	6.49	430853	7.68	231046	11.05	189685	13.29	50339	3.45
ZZZZZZ	253056	6.49	437192	7.68	232387	11.05	191906	13.29	50107	3.45
ZZZZZZ	252866	6.49	434793	7.68	232522	11.05	195016	13.29	52452	3.45
ZZZZZZ	261381	6.48	446440	7.68	236649	11.05	194986	13.29	49857	3.44
ZZZZZZ	265100	6.49	454862	7.69	243492	11.05	199398	13.29	55938	3.45

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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, 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
MC17401-7	V15133.D	98	101	94
MC17371-4MS	V15141.D	103	104	94
MC17371-4MSD	V15142.D	104	104	95
MSV612-BS	V15125.D	102	103	95
MSV612-BSD	V15126.D	101	103	94
MSV612-MB	V15129.D	97	101	94

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

Volatile Surrogate Recovery Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC17401-1	M53434.D	100	109	97
MC17401-2	G123587.D	103	98	93
MC17401-3	G123588.D	101	97	92
MC17401-4	G123609.D	92	88	83
MC17401-4	G123592.D	102	95	93
MC17401-5	G123589.D	101	96	93
MC17401-6	G123584.D	98	94	89
MC17401-8	G123585.D	100	100	96
MC17401-9	G123607.D	94	91	87
MC17401-9	G123590.D	103	96	93
MC17401-10	G123608.D	99	93	92
MC17401-10	G123591.D	99	95	92
MC17401-11	G123586.D	101	97	94
MC17401-8MS	G123593.D	100	96	92
MC17401-8MSD	G123594.D	97	93	88
MC17422-6MS	M53437.D	102	109	104
MC17422-6MSD	M53438.D	102	112	102
MC17458-2MS	G123615.D	96	93	84
MC17458-2MSD	G123616.D	97	92	88
MSG4908-BS	G123578.D	105	101	96
MSG4908-MB	G123581.D	104	99	93
MSG4909-BS	G123603.D	102	98	91
MSG4909-BSD	G123604.D	101	96	89
MSG4909-MB	G123606.D	101	98	91
MSM1816-BS	M53432.D	104	109	97
MSM1816-MB	M53431.D	100	107	97

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

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: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31685-MB	YZ77806.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014

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

MC17401-1, MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.5	0.96	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	107%	61-167%
460-00-4	Bromofluorobenzene (S)	103%	61-167%

Method Blank Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31715-MB	YZ77925.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020

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

MC17401-7

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)	120%	36-173%
460-00-4	Bromofluorobenzene (S)	111%	36-173%

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31685-BS	YZ77807.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014

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

MC17401-1, MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	33.2	37.5	113	59-142
106-93-4	1,2-Dibromoethane	33.2	41.7	126	56-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	111%	61-167%
460-00-4	Bromofluorobenzene (S)	109%	61-167%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31715-BS	YZ77926.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020

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

MC17401-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.081	114	60-140
106-93-4	1,2-Dibromoethane	0.071	0.066	93	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	121%	36-173%
460-00-4	Bromofluorobenzene (S)	114%	36-173%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31685-MS	YZ77808.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
OP31685-MSD	YZ77809.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014
MC17401-8	YZ77810.D	1	01/14/13	CZ	01/12/13	OP31685	GYZ7014

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

MC17401-1, MC17401-2, MC17401-3, MC17401-4, MC17401-5, MC17401-6, MC17401-8, MC17401-9, MC17401-10, MC17401-11

CAS No.	Compound	MC17401-8 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		37.2	41.9	112	37.6	45.8	121	9	40-156/27
106-93-4	1,2-Dibromoethane	ND		37.2	46.7	125	37.6	49.0	130	5	48-141/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17401-8	Limits
460-00-4	Bromofluorobenzene (S)	114%	110%	119%	61-167%
460-00-4	Bromofluorobenzene (S)	114%	116%	131%	61-167%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31715-MS1	YZ77927.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020
OP31715-MSD1	YZ77928.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020
MC17451-5	YZ77929.D	1	01/19/13	CZ	01/17/13	OP31715	GYZ7020

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

MC17401-7

CAS No.	Compound	MC17451-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.0683	0.068	100	0.0668	0.052	78	27	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0683	0.060	88	0.0668	0.044	66	31* [a]	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC17451-5	Limits
460-00-4	Bromofluorobenzene (S)	107%	84%	123%	36-173%
460-00-4	Bromofluorobenzene (S)	108%	84%	121%	36-173%

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17401-7	YZ77933.D	118	120
OP31715-BS	YZ77926.D	121	114
OP31715-MB	YZ77925.D	120	111
OP31715-MS1	YZ77927.D	107	108
OP31715-MSD1	YZ77928.D	84	84

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Volatile Surrogate Recovery Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC17401-1	YZ77811.D	101	114
MC17401-2	YZ77812.D	72	100
MC17401-3	YZ77813.D	85	110
MC17401-4	YZ77814.D	103	124
MC17401-5	YZ77815.D	103	129
MC17401-6	YZ77817.D	91	110
MC17401-8	YZ77810.D	119	131
MC17401-9	YZ77818.D	103	118
MC17401-10	YZ77819.D	109	135
MC17401-11	YZ77820.D	117	142
OP31685-BS	YZ77807.D	111	109
OP31685-MB	YZ77806.D	107	103
OP31685-MS	YZ77808.D	114	114
OP31685-MSD	YZ77809.D	110	116

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	61-167%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GYZ7014-ICC7014	**Injection Date:**	01/14/13
Lab File ID:	YZ77800.D	**Injection Time:**	15:23
Instrument ID:	GCYZ	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.76	3.48

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31685-MB	YZ77806.D	01/14/13	17:54	3.76	3.49
OP31685-BS	YZ77807.D	01/14/13	18:20	3.76	3.48
OP31685-MS	YZ77808.D	01/14/13	18:45	3.76	3.49
OP31685-MSD	YZ77809.D	01/14/13	19:10	3.76	3.48
MC17401-8	YZ77810.D	01/14/13	19:35	3.76	3.48
MC17401-1	YZ77811.D	01/14/13	20:01	3.76	3.48
MC17401-2	YZ77812.D	01/14/13	20:26	3.76	3.48
MC17401-3	YZ77813.D	01/14/13	20:51	3.76	3.48
MC17401-4	YZ77814.D	01/14/13	21:17	3.76	3.48
MC17401-5	YZ77815.D	01/14/13	21:43	3.76	3.48

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GYZ7014-CC7014	**Injection Date:**	01/14/13
Lab File ID:	YZ77816.D	**Injection Time:**	22:08
Instrument ID:	GCYZ	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.76	3.48

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC17401-6	YZ77817.D	01/14/13	22:33	3.76	3.48
MC17401-9	YZ77818.D	01/14/13	22:59	3.76	3.48
MC17401-10	YZ77819.D	01/14/13	23:24	3.76	3.48
MC17401-11	YZ77820.D	01/14/13	23:49	3.76	3.48
GYZ7014-ECC7014	YZ77821.D	01/15/13	00:14	3.76	3.48

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Check Std:	GYZ7020-CC7019	**Injection Date:**	01/19/13
Lab File ID:	YZ77924A.D	**Injection Time:**	00:23
Instrument ID:	GCYZ	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.76	3.48

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31715-MB	YZ77925.D	01/19/13	00:48	3.76	3.48
OP31715-BS	YZ77926.D	01/19/13	01:13	3.76	3.48
OP31715-MS1	YZ77927.D	01/19/13	01:39	3.76	3.48
OP31715-MSD1	YZ77928.D	01/19/13	02:04	3.76	3.48
MC17451-5	YZ77929.D	01/19/13	02:29	3.76	3.48
OP31715-MS2	YZ77930.D	01/19/13	02:54	3.76	3.48
OP31715-MSD2	YZ77931.D	01/19/13	03:19	3.76	3.48
MC17505-7	YZ77932.D	01/19/13	03:45	3.76	3.48
MC17401-7	YZ77933.D	01/19/13	04:10	3.76	3.48
ZZZZZZ	YZ77934.D	01/19/13	04:35	3.76	3.48

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC17401-1 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-16-91

Wet Weight (Total)	34.868	g
Tare Weight	24.706	g
Dry Weight (Total)	33.642	g
Solids, Percent	87.9	%

Sample: MC17401-2 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-17-15

Wet Weight (Total)	27.806	g
Tare Weight	19.589	g
Dry Weight (Total)	27.033	g
Solids, Percent	90.6	%

Sample: MC17401-3 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-17-15 DUP

Wet Weight (Total)	27.485	g
Tare Weight	20.614	g
Dry Weight (Total)	26.191	g
Solids, Percent	81.2	%

Sample: MC17401-4 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-17-45

Wet Weight (Total)	30.77	g
Tare Weight	21.713	g
Dry Weight (Total)	29.248	g
Solids, Percent	83.2	%

Sample: MC17401-5 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-17-57

Wet Weight (Total)	32.032	g
Tare Weight	21.191	g
Dry Weight (Total)	29.816	g
Solids, Percent	79.6	%

Sample: MC17401-6 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-17-65

Wet Weight (Total)	29.296	g
Tare Weight	19.695	g
Dry Weight (Total)	27.794	g
Solids, Percent	84.4	%

Percent Solids Raw Data Summary

Job Number: MC17401
Account: SHELLWIC Shell Oil
Project: URSMOSTL: Roxana Drilling, Roxana, IL

Sample: MC17401-8 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-18-21

Wet Weight (Total)	31.321	g
Tare Weight	21.153	g
Dry Weight (Total)	30.08	g
Solids, Percent	87.8	%

Sample: MC17401-9 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-18-37

Wet Weight (Total)	31.57	g
Tare Weight	18.639	g
Dry Weight (Total)	30.511	g
Solids, Percent	91.8	%

Sample: MC17401-10 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-18-53

Wet Weight (Total)	39.416	g
Tare Weight	28.019	g
Dry Weight (Total)	36.571	g
Solids, Percent	75	%

Sample: MC17401-11 **Analyzed:** 11-JAN-13 by HS **Method:** SM21 2540 B MOD.
ClientID: GP-18-63

Wet Weight (Total)	36.296	g
Tare Weight	21.059	g
Dry Weight (Total)	34.365	g
Solids, Percent	87.3	%